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USSR Report

AGRICULTURE

No. 1329

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PREPARATIONS FOR SPRING FIELD WORK IN UZBEKISTAN

Moscow SEL'SKAYA ZHIZN' in Russian 22 Jan 82 p 1

/Report on interview with Ye. A. Aytmuratov, secretary of the Central Committee of the Communist Party of Uzbekistan, by A. Uzilevskiy, correspondent of SEL'SKAYA ZHIZN': "Uzbekistan Is Preparing the Harvest"/

> /Text/ The decree of the CPSU Central Committee and the USSR Council of Ministers "On Additional Measures for the Preparation for and Performance of Spring Field Work in 1982" was published in the press a few days ago. Uzbekistan's workers, who are always among the first in our country to begin spring sowing, received this important document with satisfaction. A. Uzilevskiy, correspondent of SEL'SKAYA ZHIZN', asked Ye. A. Aytmuratov, secretary of the Central Committee of the Communist Party of Uzbekistan, to discuss what was being done in the republic to most rapidly complete the preparations for spring, to sow at the best time and to obtain a high harvest of all agricultural crops on every hectare.

Not much time remains before the beginning of spring field work in Central Asia, said Ye. A. Aytmuratov. Therefore, Uzbekistan's agricultural workers are aiming at fully completing in the next few days the entire set of agrotechnical winter measures directed toward the establishment of the basis for a harvest worthy of the anniversary year--the 60th anniversary of the USSR.

Getting ready for field work, farmers are activating all production reserves. As before, they are pursuing the course of further intensification of all agricultural sectors and efficient utilization of the material and technical base and rich experience of advanced collectives. The practice of Bekabadskiy and many other rayons, where high harvests of cotton, grain, vegetables, potatoes, fruits and fodder crops are grown under any conditions and state plans and obligations are fulfilled successfully, has been studied in the republic.

Party, Soviet and agricultural bodies drew attention to a careful analysis of the results of last year, which was extremely difficult in terms of meteorological conditions, and developed a set of measures ensuring a further increase in the production and procurement of agricultural products. In response to the decisions of the November (1981) Plenum of the CPSU Central Committee a competition for an increase in the efficiency of work of all collectives, for prompt and high-quality preparations for sowing and for the production of a high harvest on every hectare is developing. For many indicators the level attained by this time last year was exceeded. Despite the late completion of harvesting, the fall field was plowed on the entire area and more than 1.7 million hectares of land were cultivated with two-deck plows.

As is well known, one-half of the republic's entire arable land is subject to salinization. Unfortunately, on a number of farms in Dzhizakskaya, Ferganskaya and Syrdar'inskaya Oblasts both the rates and quality of distillation do not always meet the requirements of agrotechnology. These shortcomings are now being eliminated.

Reserve irrigation was carried out on more than 1 million hectares. Thus, before sowing 1.5 million hectares of land will be irrigated. The cleaning of intrafarm irrigation networks is continuing in all rayons. This work is being done at higher rates in the Fergana Valley.

A total of 85 percent of the tractors and two-thirds of the sowing units were prepared in the republic by the beginning of the second 10-day period in January. In many rayons sowing equipment has already been tested under field conditions.

During the prespring period a special place is given to the condition of the seeds of cotton and of other crops. One-third of the fields allocated for cotton are to be sown with new regionalized varieties with a good quality of fiber. They will displace varieties subjected to wilt disease and not ensuring a high harvest and its quality. Most farms will increase the application of biostimulators and biologically active substances during the presowing preparation of seeds. More of them will be capsuled and pelleted. An agroindustrial association for the production and preparation of high-grade cotton seeds was established in every oblast.

The wide-row method is to be used on more than 1 million hectares. Almost on 800,000 hectares sowing will be carried out according to a precise plan with naked seeds. The introduction of sowing on harvested ridges was begun on fields in Surkhandar'inskaya Oblast. The mechanized ridge method is now being adopted in other rayons in the republic. This method is valuable, owing to the fact that ridges have a vaster area of sun heating, ensure better conditions for the development of plants and resist the formation of soil crust, because the surplus of shower moisture is not retained on the field surface, but immediately rolls down into deep furrows. Many farms have already made furrows, reducing the volume of work during the presowing period.

A skillful combination of the application of mineral and organic fertilizers and an increase in the doses of manure used on irrigated arable land produce a big gain in the harvest. Fields will now receive about 24 million tons of organic fertilizers. A total of 19 million tons have already been carted out. More than 2,000 fertility detachments operate on farms.

Kolkhozes and sovkhozes also bring in mineral fertilizers. Their application is entrusted to the agrochemical service. The volume of work is large. The farms where there are chemicalization centers cope with it more successfully.

Uzbek farmers are introducing scientifically developed crop rotations in order to more efficiently contribute to the improvement of soil and to the restoration of its fertile strength. They are removing cotton from areas infected with wilt and replacing it with crops not lending themselves to this disease. The specialists of the republic's Ministry of Agriculture and scientists of scientific research institutes are helping farms in this.

Uzbekistan's farmers must solve crucial problems during the second year of the five-year plan. The procurements of raw cotton total no less than 5,950,000 tons. The growth of grain production will ensure an increase in the yield of corn. About 2 million tons of corn and more than 500,000 tons of rice are to be obtained. The output of fruits, vegetables and potatoes will reach 5.5 million tons. Farms will cultivate all grain corn according to industrial technology, increasing the average yield to 70 or 75 quintals per hectare. Rice growers are competing for the production of 50 to 60 quintals of grain.

The development of potato growing requires a great deal of work. Last year tuber production in our republic increased by almost 100,000 tons. Specialized potato growing sovkhozes took the first steps. In 1982 the gross output of potatoes is to total 365,000 tons as compared to 243,000 tons last year.

There is now frost-free winter in Uzbekistan. The warm weather makes it possible to widely carry out prespring work in fields. On the other hand, owing to rare precipitation, the necessary snow reserve is not created in mountains and, unfortunately, the absence of cold weather contributes to a successful wintering of agricultural crop pests. Rural workers take all this into consideration in their work plans. They take efficient measures to create better conditions for the future harvest.

11,439
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MAJOR CROP PROGRESS AND WEATHER REPORTING

PROGRESS, LAG IN SOWING OF WINTER CROPS IN UZBEKISTAN

Tashkent PRAVDA VOSTOKA in Russian 30 Oct 81 p 3

/Article: "To Think About Tomorrow's Bread"/

/Text/ The harvesting of basic agricultural crops is being completed. Therefore, the intensity of labor efforts on fields is not diminishing. The republic's farmers are making truly heroic efforts to fulfill the plans and obligations for the delivery of cotton, rice and other plant products to the state.

During these intense days the establishment of a reliable foundation for the harvest of the second year of the five-year plan is no less important. The sowing of winter grain crops is one of the main tasks. Tomorrow's bread is created today.

This is well understood in party, Soviet and economic organizations of Bukharskaya, Ferganskaya and Andizhanskaya Oblasts, where the assignments for the sowing of winter crops have already been or will be fulfilled in the next few days.

Grain growers in large grain sowing rayons in Kashkadar'inskaya and Samarkandskaya Oblasts are working productively. With a plan of 262,000 hectares the people of Kashkadar'inskaya Oblast sowed crops on 151,000 hectares and with a plan of 178,000 hectares the people of Samarkandskaya Oblast, on 84,000 hectares. But farms in Dzhizakskaya Oblast fulfilled the assignment 35.5 percent--the indicator is below the average republic indicator. Zarbdarskiy Rayon sowed crops only on 16 percent of the allocated area and Gallyaaral'skiy Rayon, on 21 percent. The people of Bakhmal'skiy Rayon, who fulfilled one-half of the assignment, are working at higher rates.

In Kashkadar'inskaya Oblast grain growers in Shakhrisabzskiy Rayon are letting us down and in Samarkandskaya Oblast, in Kattakurganskiy Rayon.

Tashkentskaya Oblast is lagging behind the rates of last year's sowing. This especially applies to Akkurganskiy, Bekabadskiy and Kommunisticheskiy Rayons. The farmers of Tashkentskiy Rayon, who are to sow crops on 1,059 hectares, have not yet begun sowing.

Meanwhile, the optimum time for the sowing of winter crops on irrigated land is up. Grain growers, who cultivate ears on dry land, must also hurry up.

Before bad and freezing weather arrives it is necessary to complete the sowing of winter crops everywhere. Every lost hour today means damage to the future harvest. To speed up the establishment of winter crops is the most important task of farm managers and specialists and of party organizations.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

INTRODUCTION OF NEW SNOW RETAINING MACHINE URGED

Moscow SEL'SKAYA ZHIZN' in Russian 20 Jan 82 p 1

/Article by M. Sil'vanovich, correspondent of SEL'SKAYA ZHIZN', Omskaya Oblast: "More Snow Means More Moisture"/

/Text/ The K-700 tractor is moving rapidly along the field. Strips of compacted snow remain behind it and ridges ½ meter high, between them.

"In all, on the farm snow retention was carried out on 30,000 hectares," explains V. A. Vasil'yev, chief agronomist of the Goncharovskiy Sovkhoz. "We cultivated almost one-third of these areas by such a method. We are moving in the second circle, but now we are boldy using the SVU-2.6 series snow ridgers."

On many farms in Omskaya Oblast snow is compacted not for the first year. If a plant snow ridger or an ordinary homemade wedge is used after the first snow, it perforates the frozen snow crust, which is not solid, to the ground and "shaves off" the stubble. This damages soil protective field cropping technology. Unfortunately, however, plant designed machines for snow compaction are not manufactured.

"We make inventions," continues V. A. Vasil'yev. "We adapt old tires from Kirovets tractors. We place metal sheets under them so that they may not furrow snow, but compact it. If it is necessary to increase the pressure, the tires can be filled with earth or water."

The agrometeorological situation in the Irtysh area is now unusual. In the steppe zone only 13 percent of the fields have 80 mm of productive moisture in the meter soil layer. On the average, in the oblast soil entered winter with a 53-mm moisture reserve. There was little snow in winter. In addition, where ridgers were used after the first snow fall, a big mistake was made. The bare earth turned black until December, when the second snow fell.

Fortunately, not many acted in this way. Farm agronomists and managers have known about the advantages of snow compaction for a long time. People come to the Novoural'skoye Experimental Model Farm of the Siberian Scientific Research Institute of Agriculture from everywhere. Here snow is retained only by the UVS-10 implements developed by the Siberian Scientific Research Institute of Agriculture. If to describe this implement in the simplest way, it is something as follows: Snow moldboards are placed on a wide ski. The height of their placement is adjustable. The design of this machine is based on the idea of the soil protective system of farming: To preserve the stubble, which serves the harvest not only in fall and winter, but in spring as well, at any cost.

SEL'SKAYA ZHIZN' has already reported that for 10 years Omsk designers have defended their invention in various instances, but have not achieved success. The UVS-10 snow roller compactors manufactured according to the blueprints of the design bureau of the Siberian Scientific Research Institute of Agriculture are used in many oblasts in Siberia. However, these are isolated models. In more than two decades from the beginning of the output of the SVU-2.6 snow ridger the enterprises of the Ministry of Tractor and Agricultural Machine Building did not produce anything new, although the soil protective system of farming needs completely different implements.

Before my trip to farms I again visited the institute. V. Ye. Kovtunov, head of the mechanization laboratory, together with A. V. Chusov, the project's chief engineer, showed me a new machine, which will soon undergo comparative tests. The idea is the same: compaction with ridging. It is embodied in a very interesting way. Under one frame girder there are four series snow ridgers only altered for a width of split of 3 meters. They are placed on support skis. The height of the placement of snow ridges, as in UVS-10, is adjusted by means of hydraulics. The width of the implement is 16 meters--exactly what is needed for a full loading of a powerful Kirovets tractor.

"This implement ensures a smooth operation of the entire unit," says V. Ye. Kovtunov. "It can be easily transformed into a transport position. The frame girder can also be used for other implements, for example, a cultivator or a leveler."

I would like to wish this innovation a more successful journey and finish. Institutes and ministries have been working on the development of a machine for snow retention too long and farmers still have to furrow fields with... tires.

A situation report on the oblast indicates that by the middle of January snow retention was carried out on the entire area planned in fall. Snow was compacted on more than 1 million hectares. Russko-Polyanskiy, Odesskiy and Tavricheskiy Rayons are carrying out this work well. The lag of Poltavskiy, Okoneshnikovskiy, Cherlakskiy and a number of other steppe rayons is disturbing.

All other technical facilities, including hitches, are also effective on snow that has been compacted, indeed, with one reservation expressed by B. I. Isayev, chief agronomist of the Kolkhoz imeni Engel's in Sherbakul'skiy Rayon: "If we use snow ridges in February, in spring the field thaws out in strips and it is more difficult to retain melt water." This once again confirms the advantages of snow compaction.

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EXPANSION OF SNOW RETENTION WORK IN WEST SIBERIA ADVOCATED

Moscow SEL'SKAYA ZHIZN' in Russian 3 Mar 82 p 1

/Article by P. Chernov, correspondent of SEL'SKAYA ZHIZN', Novosibirskaya Oblast: "Moisture Is Accumulated"/

/Text/ This year winter in West Siberia is mild. The very first snow fell densely, covering earth reliably. But since the fall there has been little moisture in soil and, therefore, many farms have tried to increase the thickness of the cover--ridges of snow "plowing" are seen on fields. On some plots on the Chikskiy Sovkhoz, where even protective forest belts could not abate the wind force, the furrows are recent. They were at a distance of 5 to 7 meters from each other, but February snow storms leveled them off.

On the Bol'shevik Kolkhoz in Ordynskiy Rayon snow ridgers were transported even to areas where the intake of moisture in soil was guaranteed by sprinkling systems. Some plots were cultivated twice. Exceeding the assignment 1.5-fold, machine operators do not stop their work even now. A thick snow layer also covers the fields of the Priobskiy Sovkhoz and of the Krasnoye Znamya Kolkhoz in Ordynskiy Rayon.

Winter methods of moisture accumulation have long been known and accessible to all kolkhozes and sovkhozes in the oblast. Some rayons, not satisfied with series implements, found their own method of snow reclamation. A 10- to 12-meter pipe is attached to the Kirovets tractor and four big worn out tires, to the pipe. As a result, the productivity of machines doubled.

The efficient organization of labor and harmonious work of machine operators ensured a prescheduled fulfillment of snow retention plans on most farms. They include kolkhozes and sovkhozes in Chistoozernyy, Chanovskiy, Kuybyshevskiy, Barabinskiy and other rayons. Nevertheless, this important agricultural method is not yet respected everywhere. Snow retention was carried out on small areas in Kargatskiy, Ust'-Tarkskiy and Bolotninskiy Rayons, but in Moshkovskiy and Severnyy Rayons, essentially, farms did not embark on this work. Some farms cultivated fields with snow ridgers on 30 to 50 hectares. Here and there strips cultivated by highway workers in order to prevent drifts on routes were included in the report.

Novosibirsk farmers have set high yield targets for the second year of the five-year plan. However, the field will not respond to words and it cannot be cheated. It rewards only the labor of those who take every measure to increase its fertile strength.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

SOIL PREPARATION FOR COTTON--Ashkhabad--Farmers in Maryyskaya Oblast--Turkmenistan's largest base for the production of the most valuable fine-fiber raw cotton--were the first in the republic to complete the preparation of soil for cotton. More than 200,000 hectares of irrigated land were plowed with two-deck plows with furrow slice inversion. Such a method of initial soil cultivation will help to control perennial weeds, which cause grain growers much trouble in spring and summer. This year Turkmen farmers are to plow more than 500,000 hectares of irrigated land for the basic crop. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 22 Jan 82 p 1] 11,439

POTATO PLANTING--Ashkhabad--Freezing weather will last another month on most of the country's territory, but on the suburban Kolkhoz imeni Sverdlov farmers have begun the planting of potatoes in open ground. Tubers are placed in soil at a depth exceeding the generally accepted depth by 3 cm. Such a "cushion" serves as a reliable guarantee for the preservation of planting stock even in case of freezing weather. [Text] [Moscow TRUD in Russian 2 Feb 82 p 1] 11,439

CORN GRAIN PRODUCTION--Ashkhabad, 11 Mar--Corn will now occupy the largest area among fodder crops in Turkmenistan. More than 100,000 hectares of irrigated land were allocated for it. The republic's corn growers have begun the sowing campaign. Mechanized complexes have gone to the fields of farms in Ashkhabadskaya Oblast. A total of 40,000 hectares--much more than last year--were allocated for the cultivation of corn grain in the republic. It was decided to cultivate the harvest according to industrial technology on almost one-half of the wedge. Last year's experience showed that such a method was most effective. Specialized brigades were established on every kolkhoz and sovkhoz. The best land, equipment and seeds of Krasnodar and Uzbek varieties, which proved their value under local conditions, were allocated to them. Hundreds of mechanized complexes were organized for work according to the Ipatovo method. It was decided to raise the production of corn grain to 173,000 tons this year. To increase the procurement of green fodder for creep feeding and silage, plans were made to carry out repeated sowing on vast areas in summer. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 12 Mar 82 p 1] 11,439

SOWING OF WINTER CROPS--Baku--Azerbaijan's farmers have completed the sowing of winter grain crops at the best time. Grain crops occupy more than ½ million hectares. Areas sown with intensive varieties of the Gyurgana wheat and of the Pallidum-596 barley developed by the republic's breeders have now been expanded. Areas sown with winter barley designed for green feed for livestock occupy almost one-fifth of the entire grain wedge. Work on the topdressing of plants with mineral fertilizers has begun on a large scale in the Karabakh Steppe and foothills of the Greater and Lesser Caucasus. [Text] [Moscow GUDOK in Russian 5 Dec 81 p 1] 11,439

TWO-DECK PLOWS--Baku--Azerbaijan's farmers are plowing for winter crops at higher rates than last year. The universal use of two-deck plows ensures a high quality of soil preparation. Fields are being abundantly dressed with mineral and organic fertilizers. /Text/ /Moscow GUDOK in Russian 6 Sep 81 p 1/ 11,439

IRRIGATION NETWORK--Dushanbe--The preparation of an irrigation and drainage network for spring has begun in Tajikistan's valleys. Power equipment is being widely used in the cleaning of canals and collectors. /Text/ /Moscow TRUD in Russian 24 Dec 81 p 1/ 11,439

RECLAMATION NETWORK--Yavan (Tajik SSR)--Water management and sovkhoz workers in Yavanskiy Rayon in virgin land have completed the preparation of the irrigation and reclamation network for spring. /Text/ /Moscow TRUD in Russian 26 Jan 82 p 1/ 11,439

IRRIGATED LAND FOR CORN--Dushanbe--Tajikistan's farmers have completed the preparation of irrigated land for corn for grain. The areas sown with it will now be expanded considerably and reach 15,000 hectares. Tractors and seeders are fully prepared for departure to the field. The republic's farms are carrying out water supply irrigation and preparing organic fertilizers. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 28 Jan 82 p 1/ 11,439

FERTILITY DETACHMENTS--Omsk, 26 Nov--In response to the decisions of the November Plenum of the CPSU Central Committee Omsk farmers are actively establishing the basis for the future harvest. More than 7 million tons of organic fertilizers have been delivered to the fields of the oblast's kolkhozes and sovkhozes--much more than last year. The fertility detachments established under the rayon associations of Sel'khozkhimiya set the tone in the competition. They deliver up to 20,000 tons of manure daily. Sel'khozkhimiya subdivisions have now delivered a total of 3.4 million tons of organic fertilizers. /By M. Sil'vanovich/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 27 Nov 81 p 1/ 11,439

SNOW RETENTION--Omsk, 10 Dec--An abundant snow fall has covered the fields of the Irtysh area. Machine operators have begun the accumulation of winter moisture. Every day they form snow embankments on an area of 20,000 hectares. On many farms preference is given to snow compaction by special compactors designed by the Siberian Scientific Research Institute of Agriculture. At the same time, stubble destruction is eliminated and land is not exposed, as is the case when snow ridgers are used. /By M. Sil'vanovich/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 11 Dec 81 p 1/ 11,439

MOISTURE ACCUMULATION--Ulan-Ude, 12 Dec--Kolkhozes and sovkhozes in the autonomous republic have begun the accumulation of winter moisture. More than 100 pumping stations supply water from rivers to fields. This work is well organized on farms in Kurumkanskiy Rayon, where about 1 million cubic meters of ice crust will be accumulated during winter. The experience of meadow specialist Dashi Ukhinov from the Ulyunkhanskiy Sovkhoz shows that land moistened in this way produces 25 quintals of hay per hectare, or three times as much as ordinary hayfields. /By M. Babintsev/ /Text/ /Moscow TRUD in Russian 13 Dec 81 p 1/ 11,439

SNOW EMBANKMENTS--Barnaul, 15 Dec--Grain growers in Kulunda, the Rubtsovsk-Aleysk zone and other steppe regions in Altay know the value of winter precipitation. With the beginning of the first snow falls work on its accumulation in fields has expanded on the kray's farms. Machine operators in Aleyskiy Rayon were among the first to cart out snow ridgers. For example, mounted wedges, which during every operation of the unit make two snow embankments at a distance of 2 meters from each other, are used successfully for this purpose on the Pobeda Kolkhoz. /By A. Torichko/ /Text/ /Moscow TRUD in Russian 16 Dec 81 p 1/ 11,439

SNOW RIDGERS--Barnaul--Snow ridgers are operating on the fields of all kolkhozes and sovkhozes in Altay. On many farms embankments are being compacted with rollers. Workers at industrial enterprises manufactured hundreds of modernized units according to the blueprints of scientists at the Altay Scientific Research Institute of Farming and Selection of Agricultural Crops and shipped them to kolkhozes and sovkhozes. /Text/ /Moscow TRUD in Russian 24 Dec 81 p 1/ 11,439

AGRICULTURAL AVIATION--Spass-Dal'niy (Primorskiy Kray), 11 Mar--Agricultural aviation crews have begun spring operations on rice sovkhozes in Primor'ye. Not only the good summer weather, but also the prompt preparation of field airfields and other ground services, helped them in this. Phosphorus and potassium fertilizers are now sown from the air on plots. By the beginning of the sowing campaign aviators plan to apply mineral fertilizers to 45,000 hectares of fields--the entire area earmarked for sowing. /Text/ /Moscow TRUD in Russian 12 Mar 92 p 1/ 11,439

SOWING COMPLEXES--More than 1,500 sowing complexes will participate in spring operations on Altay's fields. Such an organization of the sowing campaign by specialized links ensuring a flow has become the basic in the kray. The procurement of coarse feed for animal husbandry and harvesting will begin soon after sowing. Grain growers are now especially satisfied with the quality of seeds. A total of 87 percent of all the seeds of grain crops are included in the first and second categories and 90 to 92 percent will be included in them by the beginning of sowing. Mainly, Tselinnaya-20, Omskaya-9 and Novosibirskaya-67 wheats will occupy more than 4 million hectares of arable land. /Text/ /Moscow IZVESTIYA in Russian 16 Mar 82 p 2/ 11,439

ORGANIC FERTILIZER APPLICATION--Novosibirsk, 20 Mar--A total of 7.6 million tons of local fertilizers were transported to fields in the oblast last year. It has now been decided to consolidate this result. Organic fertilizers are delivered in an organized way to arable land on Barabinsk, Kuybyshevsk and Kochkovskiy farms. Important spring measures are also implemented diligently on other farms. The rates of delivery of local fertilizers in Kolyvanskiy, Chanovskiy, Maslyaninskiy and many other rayons are much higher than last year. More than 2 million tons of organic fertilizers have been delivered to fields throughout the oblast since the beginning of the year. /By P. Chernov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 21 Mar 82 p 1/ 11,439

CSO: 1824/250

CONFERENCES CONSIDER LIVESTOCK

Union Council of Kolkhozes

Moscow SEL'SKAYA ZHIZN' in Russian 1 Apr 82 p 2

/Report on conference by Ye. Petrakov: "Big Tasks of Livestock Breeders"/

/Text/ The Order of Lenin Ukraina Kolkhoz in Gorodokskiy Rayon, Khmel'nitskaya Oblast, headed by twice Hero of Socialist Labor G. I. Tkachuk has increased the production and sale of livestock products to the state year after year. On 100 hectares of agricultural land 1,206 quintals of milk and 302 quintals of meat were produced there last year. A total of 4,825 kg of milk were obtained from each of the 1,560 cows. The average delivery weight of livestock is 428 kg and of hogs, 115 kg. A total of 105 heifers per 100 cows and 1,890 hoglings per 100 sows were obtained.

These indicators were cited at the meeting of the Union Council of Kolkhozes held in Moscow yesterday. The problem of the work of the councils of kolkhozes and agricultural bodies of the Ukrainian SSR on the development of animal husbandry on kolkhozes was examined. The lecturer--M. V. Khorunzhiy, chairman of the Ukrainian SSR Council of Kolkhozes--and speakers also cited other examples of successful work by the republic's livestock breeders. This important sector is developing successfully on the Zarya Kommunizma Kolkhoz in Novoarkhangel'skiy Rayon, Kirovogradskaya Oblast, the Kolkhoz imeni Kirov in Belozerskiy Rayon, Khersonskaya Oblast, the Rossiya Kolkhoz in Volnovakhskiy Rayon and the Oktyabr' Kolkhoz in Mar'inskiy Rayon, Donetskaya Oblast, the Kolkhoz imeni Kirov in Voznesenskiy Rayon, Nikolayevskaya Oblast, the Kolkhoz imeni Lenin in Rakitnyanskiy Rayon, Kiev Oblast and on many other farms.

New advanced technologies and forms of labor organization are widely introduced in Ukraine's kolkhoz animal husbandry. For example, the flow-shop system of keeping the milch herd, which originated in L'vovskaya Oblast, is widespread. The initiative of livestock breeders in Cherkasskaya Oblast for the maximum utilization of the potentials of every farm for an increase in farm output has received active support in the country. The initiators of the competition reinforce their initiative with practical deeds.

At the same time, it was noted at the conference, many councils of kolkhozes and agricultural bodies in the republic do not manifest initiative in the search for and utilization of potentials for the strengthening of the feed base and increase in the production of milk, meat and other farm products. Reclaimed land is not utilized in a sufficiently efficient manner for feed production. The production of fodder grass seeds has not been organized properly. The proportion of substandard hay, haylage, silage and vitamin meal is still high. All this leads to the overexpenditure of feed per unit of output and increases its production cost. Veterinary work is not carried out at the proper level.

The republic's councils of kolkhozes, it was noted at the meeting, must more sharply react to cases of breach of state planning discipline and place higher demands on farm managers for the fulfillment of assignments.

The union council also examined the problem of the introduction of the achievements of science and advanced experience on kolkhozes in the Latvian SSR and other problems. The decrees of the Presidium of the Union Council of Kolkhozes were approved.

Z. N. Nuriyev, deputy chairman of the USSR Council of Ministers, and executives of the CPSU Central Committee, ministries and departments took part in the council's meeting.

Mogilevskaya Oblast Plenum

Minsk SOVETSKAYA BELORUSSIYA in Russian 24 Mar 82 p 2

/Report on plenum: "Livestock Breeders Are Searching for Potentials"/

/Text/ Mogilev, 23 Mar. (BELTA). The tasks of the oblast's party organizations in the fulfillment of the requirements of the 26th CPSU Congress for an increase in the production and procurement of livestock products were discussed at the plenum of the oblast party committee held today.

The lecturer--V. V. Prishchepchik, first secretary of the oblast committee of the Communist Party of Belorussia--and those that spoke during the debate noted that a powerful material base was established in the oblast's animal husbandry shop. The level of overall mechanization rose. The population of large-horned cattle, hogs and poultry increased.

Examples of a skillful management of animal husbandry and of a creative attitude toward this matter were cited at the plenum. Thus, the workers of the Kolkhoz imeni Dzerzhinskiy in Bobruyskiy Rayon, having reconstructed and expanded the existing livestock barns and utilized other possibilities during the 10th Five-Year Plan, increased the production of meat 2.2-fold and of milk, by 30 percent.

The speakers mentioned specific potentials for an increase in the population of large-horned cattle, hogs and poultry, rise in the productivity of the dairy herd and improvement in pedigree work in the oblast. Special attention was drawn to the establishment of a firm feed base.

The participants in the plenum pointed to the slow mastering of new livestock complexes with concern. For example, 14 heifer raising complexes were built in the oblast during the past five-year plan. Unfortunately, almost one-half of the places in these complexes are vacant in Belynichskiy, Bykhovskiy, Bobruyskiy, Kruglyanskiy and Chausskiy Rayons. The standard of production is low and elementary miscalculations in technology are made here.

Considerable attention was paid to the problems of the further improvement in the work with cadres of livestock breeders. More than 3,500 party members unified into 37 shop party organizations and 103 party groups now work at farms and complexes. Unfortunately, some committees and organizations handle poorly the growth of the party stratum among livestock breeders.

The adopted decision mapped out the ways for the further advance of animal husbandry an increase in the production of milk and meat.

The plenum also heard information on the fulfillment of the decree of the CPSU Central Committee "On Measures for the Further Improvement in Work With Workers' Letters and Suggestions in the Light of the Decisions of the 26th CPSU Congress" by the oblast's party committees and organizations.

V. F. Mitskevich, first deputy chairman of the Belorussian SSR Council of Ministers, spoke at the plenum.

Gomel'skaya Oblast Takes Measures

Minsk SOVETSKAYA BELORUSSIYA in Russian 25 Mar 82 p 1

/Report on plenum: "At the Level of New Tasks"/

/Text/ Gomel', 24 Mar. (BELTA). The discussion at the recent plenum of the Central Committee of the Communist Party of Belorussia of the report of the Gomel'skaya Oblast Party Committee on the fulfillment of the requirements of the 26th CPSU Congress for an increase in the production and procurement of livestock products has become a specific program of work in this direction for party and economic cadres. Today the plenum of the oblast committee of the Communist Party of Belorussia discussed the measures for the further development of a key sector of agricultural production--the animal husbandry sector.

Yu. M. Khusainov, first secretary of the oblast committee of the Communist Party of Belorussia, made a report.

The oblast's livestock breeders made certain advances during the winter stabling period of this year. During October-February milk production increased by 4.2 percent. High weight gains in feeder livestock were obtained on many farms. However, all the existing possibilities for an increase in the production of livestock products are not utilized everywhere. The achievements of science and advanced experience are introduced poorly and internal potentials are not activated. For example, during the winter stabling period in the last 3 years Braginskiy, Buda-Koshelevskiy and Svetlogorskiy Rayons had an approximately the same feed reserve. Utilizing it efficiently, farms in Svetlogorskiy Rayon did not lower milk production and even increased meat production. At the same time, in Braginskiy and Buda-Koshelevskiy Rayons the productivity of animals was lowered by 21 to 25 percent.

The measures adopted by the plenum determined the steps for an improvement in the work of the oblast's animal husbandry shop. In particular, the feed base is to be strengthened. For this purpose provision was made to expand the areas sown with peas, corn and grass, to improve the yield of reclaimed land and to establish cultivated hayfields and pastures. The task of having no less than 26 cows per 100 hectares of agricultural land by the end of the five-year plan was set.

The participants in the plenum also discussed problems connected with the further improvement in the selection, disposition and education of managerial personnel on the oblast's kolkhozes and sovkhozes in the light of the requirements of the 26th CPSU Congress.

The measures of the oblast party committee on the fulfillment of the decree of the CPSU Central Committee "On the 60th Anniversary of the Formation of the Union of Soviet Socialist Republics" were examined and approved.

N. I. Dementey, secretary of the Central Committee of the Communist Party of Belorussia, spoke at the plenum.

Estonian Agricultural Commission

Tallinn SOVETSKAYA ESTONIYA in Russian 21 Mar 82 p 3

/Report on meeting: "In the Commission on Agriculture of the Estonian SSR Supreme Soviet"/

/Text/ A meeting of the Commission on Agriculture of the Estonian SSR Supreme Soviet was held. It was conducted by I. Kallas, its chairman.

The work with cadres of machine operators and livestock breeders done in the republic and the tasks for retaining them in rural areas were discussed. Estonian SSR Minister of Agriculture V. Lind made a report.

Deputies I. Kallas, Kh. Parik, A. Aynumyae, Yu. Ryaym, U. Tinits, V. Udam, V. Kottisse and others spoke at the meeting. It was noted that housing and working conditions improved on kolkhozes and sovkhozes. For an improvement in the working conditions of machine operators the structure of the machine and tractor pool is refined and the pool of agricultural machines is formed actively. The manufacture of many machines was organized at the republic's enterprises. As a result of this, the volume of work performed by machine operators increased by approximately one-fourth during the 10th Five-Year Plan.

However, despite the work done, the retention of machine operators and livestock breeders in rural areas does not yet fully meet the demands of the 26th CPSU Congress and of the latest decisions of the CPSU Central Committee. There is still a big personnel turnover among machine operators and livestock breeders. The shortcomings in the development of the social sphere are the basic reasons for this.

A decision was adopted, in which the commission recommended that the Estonian SSR Ministry of Agriculture and a number of other ministries and state committees take more efficient measures to retain machine operators and livestock breeders in rural areas.

The commission also heard a report by I. Mets, chairman of the Paydeskiy Rayon Executive Committee, on the fulfillment of the commission's decision dated 16 April 1981 "On the Work of the Executive Committee of the Paydeskiy Rayon Soviet of People's Deputies on Giving Citizens Assistance in the Development of Subsidiary Farming in Accordance with the Law 'on the Rayon Soviet of People's Deputies of the Estonian SSR.'"

M. Vannas, deputy chairman of the ESSR Supreme Soviet Presidium participated in the meeting.

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AGRO-ECONOMICS AND ORGANIZATION

IMPROVEMENT OF PROCUREMENT, PRICING SYSTEMS

State Procurement Role

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 82 pp 31-34

/Article by A. Platonov, doctor of economic sciences, professor and chief of administration for the USSR Ministry of Procurements: "Role of State Procurements in Raising the Efficiency of Agricultural Production"/

/Text/ The procurement of agricultural products plays a tremendous role in the state's economy. Such procurements aid in the formation of the centralized food funds for supplying the population with food products and the food and light industry with raw material funds, used for producing a considerable quantity of consumer goods.

The procurement methods and the forms for carrying them out are directed towards raising the efficiency of agricultural production. With the aid of tasks assigned to the kolkhozes and sovkhozes for the sale of products to the state, production plans are prepared on the farms and the type of specialization for the kolkhozes and sovkhozes is determined.

Through the carrying out of state procurements, the kolkhozes and sovkhozes are guaranteed a market for their commodity products. The procurement organizations reimburse the farms for the transport expenses incurred for delivering the products to the receiving points and processing enterprises. This confronts all of the farms with roughly the same conditions, regardless of their locations relative to the procurement organizations and enterprises.

By means of the procurement prices, assuming that they are economically sound, the kolkhozes and sovkhozes are reimbursed for their production expenses and they are guaranteed a definite level of profitability for the purpose of achieving an increase in agricultural output in the planned amounts.

Experience has proven that economically sound procurement prices constitute an important instrument for stimulating the production and procurements of agricultural products. At the same time, improvements must be realized in the forms and methods employed for organizing procurements.

Commencing in 1981, a new system for planning procurements and for stimulating the production and procurements of agricultural products was introduced into operations.

An increase in the production and procurements of agricultural products and improvements in the system for planning for and procuring these products are directly associated with achieving the highest goal of a socialist society -- realizing further improvements in the welfare of the people. During the 26th CPSU Congress, Comrade L.I. Brezhnev emphasized: "Today the CC CPSU is attaching greater importance to the task of supplying the population with food goods and also industrial consumer goods."

"In the interest of achieving a radical solution for this problem, the need for developing a special food program was recognized. This program must ensure a considerable increase in the production of agricultural products. It must draw agriculture closer to those branches engaged in the storing and processing of its products."

The new conditions for procuring agricultural products call for the use of extensive incentives for increasing the procurement volumes and raising the quality of the agricultural products being procured. Thus, commencing in 1981, the procurement organizations began paying the kolkhozes, sovkhozes and other agricultural enterprises and associations a bonus amounting to 50 percent of the procurement prices for the principal types of products, for sales to the state over and above the average level achieved during the Tenth Five-Year Plan.

If a farm did not sell products each year during the Tenth Five-Year Plan, the average level is determined by dividing the overall volume by the number of years it actually sold products to the state. In the case of sovkhozes created on land only recently introduced into agricultural use and farms for which an output sales plan was established for the very first time during the Eleventh Five-Year Plan, during the first 3 years the bonus will be paid and added onto the procurement price for the sale of products over and above the plan established for them and in subsequent years -- over and above the level achieved during the preceding 3 years.

In the case of farms which for the very first time are growing soybeans, mustard, sugar beets, cotton, tobacco and essential oil crops (in accordance with lists approved in the established manner), the bonus is paid taking into account the use of prices raised by 20 or 30 percent.

For computations concerned with the sale of grain crops, the following peculiarities are taken into account. For grain, the degree to which the average level is exceeded is determined based upon the total for all crops, whereas for buckwheat, millet, beans, lentils, brewing barley, sunflowers, soybeans and mustard -- it is determined for each crop separately. Thus the bonus for these crops is paid out to the farms once they start selling to the state over and above the average level achieved during the Tenth Five-Year Plan. And for all of the remaining crops -- upon completion of grain sales by the farms to the state, based upon a collation document, but no later than 31 December of the current year.

The new system stimulates production and procurement operations not only for farms which sell products on a systematic basis but also for those which are selling them for the very first time. Thus, farms which did not sell grain, sunflowers, soybeans or mustard to the state during the Tenth Five-Year Plan and do not have a sales plan for these products, but who have resolved to turn over to the state their excess amounts of these crops during the 1981-1985 period, will be paid at prices which include a 50 percent bonus for the products procured.

The payment of bonuses serves to stimulate the procurement of better quality products. The total amount of bonus payments, at the rate of 50 percent for grain crops, sunflowers, soybeans and mustard, is determined based upon the credited weight and the average payments made according to the effective procurement prices, while taking into account the monetary bonuses (deductions) for quality for all types and varieties of a particular crop.

The average procurement price for sugar beets sold to the state, based upon which the bonus is determined, is obtained taking into account the additional payments for sugar content, the delivery of the beets prior to 1 and 15 September, for beets sold from strain testing stations and also deductions for sub-standard quality and the quantity of beets credited to the sales plan for the current year. A similar system has been established for the other crops.

The overall volume of cattle and poultry sales over and above the average level is determined according to the totality of all types of animals sold to the state and credited towards fulfillment of the procurement plan. The amount of the 50 percent bonus is determined in accordance with the actual average annual procurement price (payment) and based upon the actual earnings of the farm realized from the sale of cattle and poultry to the state, taking into account all of the additional payments (deductions) for the quantitative and qualitative indicators during the sale of the products. These sums also include the earnings realized by a farm from the sale of poultry and rabbits, in accordance with the procurement prices and the orders received from the procurement organizations. Moreover, the cattle and poultry procured by the kolkhozes, sovkhozes and other agricultural organizations in accordance with contracts with the population and sold to the state, are also included in the overall volume of products sold during the current year, for the purpose of computing the bonus. At the same time, the cattle and poultry purchased in the absence of appropriate contracts and sold to the state without fattening, as a result of which the two month norm for weight increase was not realized prior to their sale, are excluded from the quantity sold over and above the average level of output and the earnings are not added to the overall sum used for computing the bonus.

In the case of farms which did not sell cattle to the state during the Tenth Five-Year Plan and which do not have a plan for the Eleventh Five-Year Plan, a bonus added on to the procurement prices is paid out for all products sold during the 1981-1985 period.

When determining the average milk sales level for farms for which the norm for basic fat content had been changed, the actual volume of milk sold is recomputed for the effective norm for basic fat content. The bonus is computed based upon the procurement price which prevailed throughout the current year and for farms which sell milk to the trade network and to other organizations in behalf of the state procurements -- based upon the procurement prices for the specific region. In the case of those kolkhozes and sovkhozes which did not sell milk to the state during the Tenth Five-Year Plan and do not have a plan for the Eleventh Five-Year Plan, the bonus for the 1981-1985 period is paid out for all of the products. Milk procured on the basis of contracts with the population and sold to the state is also included in the overall volume of products used for computing the bonus. The bonuses for other types of animal husbandry products are computed in a similar manner.

The advantage offered by this new system for stimulating production and procurements lies in the fact that it begins to function regardless of fulfillment of the plan: the level is exceeded -- a payment is made for the raised price. At the same time, in addition to stimulating growth in production and procurements, the new system also serves as an important impulse for plan fulfillment by each farm. Indeed, in order to receive a raised payment the level already achieved must be surpassed and this requires an increase in the output sales volume and fulfillment of the state plan. Here it should be borne in mind that the system of issuing material incentives to agricultural workers, which is employed taking into account the final production results, serves to stimulate plan fulfillment.

The existing system for issuing material incentives for growth in the quality of the commodity products being procured, by means of appropriate bonuses added to the procurement prices, is making it possible to exert sufficient and effective influence on the kolkhozes and sovkhozes with regard to improving the quality of the output during the course of its production. The prices employed and the accounting conditions are making the income of the farms directly dependent upon not only the volume but also the quality of the goods being produced and sold.

The procurement prices for field crop husbandry and animal husbandry products are arrived at taking into account the consumption characteristics of these products. Strong varieties of wheat containing 28-31 percent gluten of the first quality group are paid for with a bonus of 30 percent added on to the price for soft wheat and for a gluten content of 32 percent or higher -- with a bonus of 50 percent; durum wheats classified as 1st class according to quality and quantity of gluten are paid for with a bonus of 100 percent, 2d class -- 70 percent and 3d class -- with a bonus of 20 percent of the price for soft wheat. Deductions from the principal price are employed for the sale of low quality grain.

The procurement prices for cattle are arrived at taking into account their state of nourishment. In addition, bonuses amounting to 35-50 percent of the basic price are paid out for procurements of young large-horned cattle stock of raised live weight. Milk payments are made at prices arrived at taking into account the grade of the milk. In addition, bonuses are paid out if the milk has been cooled.

In this manner the kolkhozes and sovkhozes are provided with economic incentives for the production and sale of higher quality products. And this is reflected in the results of their economic activity through the cost accounting relationships.

The use of this new system for stimulating procurements is having a positive effect on growth in procurements and on increased income for the farms. For example, the kolkhozes and sovkhozes in Buskiy Rayon in L'vovskaya Oblast successfully fulfilled their plans for selling products to the state during the Tenth Five-Year Plan. And they also coped successfully with this task in 1981. During the past five-year plan, their additional income for above-plan grain sales amounted to an annual average of 100,000 rubles and in 1981 -- additional earnings of 175,000 rubles for grain sales over and above the average level. For sugar beets, these indicators amounted to 331,000 and 471,000 rubles respectively, potatoes -- 19,400 and 88,500 rubles. The rayon's farms realized 490,000 rubles of additional income from cattle sales over and above the average level.

At the present time however, the kolkhozes, sovkhozes and procurement organizations are not making full use of the existing system for stimulating an increase in output production. It is for this reason that growth in the production and procurements of high quality products is still proceeding at an inadequate pace. The national economy is obtaining very little durum wheat, the proportion of high quality varieties of tobacco, vegetables and fruit in the procurements is low and considerable numbers of undernourished cattle are still being procured.

The existing system of material stimulation for production and procurement operations is not devoid of shortcomings. An examination of the procurement prices reveals that many of them can be eliminated. By way of an example, let us examine in somewhat greater detail the problems associated with grain procurements.

At the present time, the basic conditions for moisture and litter are differentiated according to three zones and this fails to create equal accounting conditions for all of the farms. At the same time, during approval of uniform accounting and wholesale prices for grain, the basic conditions for these indicators were adopted. This leads to serious difficulties in grain accounting work at grain receiving enterprises and it creates great financial pressures in a number of rayons in connection with the processing of the grain.

When examining the prices for grain, it would be advisable to employ a common basis for moisture, litter and grain impurities for all regions of the country and types of prices and also to define more precisely the deduction norms for a raised content of moisture and litter when determining the credited weight.

With regard to the weed content of grain, this indicator is dependent upon the purity of the sowings and the quality of the work performed by the machine operators. The moisture content of grain is conditioned to a considerable degree by the weather conditions which prevail during the crop harvesting period and is dependent to only a minor degree upon the quality of the work being performed on a farm.

In view of this fact, it is considered advisable not to withhold funds from the kolkhozes and sovkhozes for the purpose of covering the expenses incurred by grain receiving enterprises for drying the grain to basic condition. These expenses (they amount to 80-100 million rubles annually) must be embodied in the procurement prices and they must be reimbursed by means of the distribution costs of the grain receiving enterprises.

Despite the fact that the grain undergoes primary processing on the farms, the elevators are required to dry and clean it a second time, since the conditions for procured grain and that supplied for industrial processing differ. A legitimate question arises: why is the same operation carried out twice, thereby occasioning great expenses? It would be considerably more effective to have this work carried out at the elevators, where the expenses are 2-3 times lower than those incurred at kolkhozes and sovkhozes and technological efficiency is considerably higher. Moreover, the preliminary drying and cleaning of grain intended for sale to the state as a rule leads to the accumulation of large batches of grain on the thrashing floors and this brings about a reduction in the crop harvesting rates and an increase in losses.

Under such conditions the kolkhozes and sovkhozes will be able to improve to a stable state for storage and more rapidly, that portion of the grain which remains for intra-farm needs and consitutes approximately 60 percent of the gross production.

As yet, not all of the grain receiving enterprises are able to convert over to the new technology. As the elevators become equipped with grain dryers, the acceptance of grain directly from the combines, thus bypassing the kolkhoz and sovkhoz thrashing floors, must be expanded in a systematic manner.

The state stimulates an increase in the procurement volumes for durum and strong wheats by means of a raised payment for such grain. For strong wheats containing gluten of the first quality group and a gluten content of 28-31 percent, the bonus amounts to 30 percent and when the gluten content is 32 percent or more -- 50 percent. Grain which contains no less than 25 percent gluten and which is no lower than the second group in terms of quality is paid for with a bonus of 10 percent. Durum wheats which contain between 22 and 25 percent gluten and which are not lower than the second group in terms of quality are paid for with a bonus of 20 percent. If the gluten content is from 25 to 28 percent, the bonus increases to 70 percent and 28 percent or more -- to 100 percent of the procurement price for soft wheat. In areas where they have been regionalized, durum wheats are paid for with a bonus of 10 percent.

Such a system stimulates an increase in the production and procurement volumes for valuable wheats, but it is also in need of improvements. Conflicts often develop when the gluten quantity is on the edge of a value group. The representatives of farms often accuse the elevator workers of understating the gluten amounts. During the period of grain procurements, one encounters large groups of farm representatives in the laboratories of elevators, where they express their doubts concerning the correctness of the work concerned with determining the quality of the grain.

It is considered advisable to establish a bonus amount for strong and durum wheats, for each percent of gluten contained in the grain over and above the established minimal limit. This will make it possible to evaluate the quality of the wheat in a more correct manner. Indeed, the higher the gluten content the greater must be the bonus added on to the price. In turn, such a system will greatly simplify the placement of such wheats in the granaries of the grain receiving enterprises. At the present time, the strong wheats are being stored separately according to three batches and the durum wheats -- according to 4. Under the recommended conditions for paying for it, the number of batches during storage could be reduced.

A need exists for defining more precisely the accounting conditions, taking into account the indicator for gluten quality in strong wheats. Existing requirements with regard to procurements stipulate that the gluten of these wheats should be classified as belonging to the first quality group. The requirements for delivering such wheat to the milling enterprises and the standards for wheat flour stipulate that the gluten quality must not be lower than that for the second group. Wheat containing gluten of the first group is used as an improver for wheats containing low quality gluten. Thus the bonuses for wheats containing gluten of the first quality group should be paid out in raised amounts.

The establishment for strong wheats of differentiated additional payments for a raised content in them of gluten of the first and second groups will stimulate growth in the production and procurements of such wheats and this inevitably will lead to an increase in the plant protein resources and to an increase in the production of flour from high quality varieties that are in great demand among consumers. It has been estimated that raising the proportion of high grade flour to 30 percent of its overall production will produce an annual profit for the state of more than 250 million rubles.

Articles are periodically appearing in the central press on the question of establishing such operations as the post-harvest processing (drying, cleaning, formation of commodity batches) and storage of grain as an independent branch. Such a branch has already been formed in the national economy and is developing in a successful manner. Here we have in mind the grain receiving enterprises of the USSR Ministry of Procurements, of which there are several thousand throughout the country. There are oblasts in which the granaries of the grain receiving enterprises are already capable at the present time of accommodating the entire gross yield of grain of the kolkhozes and sovkhozes.

However, the overall capacity of the granaries of these enterprises, for the country as a whole, is incapable of accommodating even all of the state's grain resources. Each year a large quantity of grain is left over for temporary storage in clamps at special sites that are unable to guarantee complete protection of the grain.

The situation is even worse with regard to the primary processing and storage of grain that is left over at the kolkhozes and sovkhozes for satisfying intra-farm requirements.

Accounting data and computations reveal that the expenses borne by grain receiving enterprises for the primary processing of grain are more than two times lower than those at kolkhozes and sovkhozes and labor expenses -- more than 3 times lower. The specific capital investments required for the construction of granaries and grain cleaning departments at grain receiving enterprises are also lower than those for kolkhozes and sovkhozes.

At the present time, granaries, dryers and cleaning lines are under construction at kolkhozes and sovkhozes and at the same time -- at grain receiving enterprises. Tremendous capital investments and material resources are being expended for this purpose.

It is considered advisable to develop the grain receiving enterprises in a manner so as to ensure the gradual conversion over to storing at these facilities the entire gross yield of grain crops with the exception of seed. The production, processing and storage of seed must, as has already been established, be carried out by specialized agricultural enterprises.

The computations indicate that the solving of this problem requires the construction of additional elevators at the grain receiving enterprises for storing the grain of the kolkhozes and sovkhozes and this will require considerable time. If extensive use is made in construction of metal silos, then this problem could be solved in 2-3 five-year plans.

Roughly the same quantities of metal and concrete are required for metal storehouses of the silo type as are required for reinforced concrete elevators. However the specific capital investments required for metal storehouses are 2.6 times less and labor expenditures lower by 40 percent

In order to lower transport expenditures substantially and accelerate the shipments of agricultural products, the state granaries and mixed feed plants should be located in the vicinities of the kolkhozes and sovkhozes. During the November (1981) Plenum of the CC CPSU, Comrade L.I. Brezhnev emphasized: "We must obviously convert over gradually to the construction, in addition to large elevators and small storehouses, of mixed feed departments that are located close to kolkhozes and sovkhozes."

The solving of these problems will make it possible to eliminate the existing shortcomings, improve the system of procurements, raise the efficiency of agricultural production and increase the procurements of higher quality products.

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APK Pricing System

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 82 pp 40-42

/Article by Yu. Biryukov, head of a sector at the Scientific Research Institute of Prices and R. Vantsyan, deputy chief of a department for the USSR State Price Committee: "Improvement in Prices in the Agroindustrial Complex"/

/Text/ The party and government are devoting a great amount of attention to the problems concerned with developing and improving the entire system of prices and rates, such that they will reflect, completely and in all areas, the socially required expenditures for live and materialized labor per unit of output and ensure reimbursement for each normally operating enterprise for the socially required production expenses and the profit required by enterprises for expanding production. The work being carried out at the present time aimed at further improving the procurement prices is directed towards achieving these goals. In conformity with the decisions handed down during the July (1978) Plenum of the CC CPSU, commencing in January 1979 the procurement prices (with no changes in the retail prices) for milk, mutton, potatoes, individual types of vegetables and other agricultural products were raised so as to ensure their profitable production at kolkhozes and sovkhozes. The additional payments to farms as a result of the increased procurement prices amounted to roughly 3.6 billion rubles annually.

The 14 November 1980 decree of the CC CPSU and the USSR Council of Ministers entitled "Improvements in Planning and in the Economic Stimulation of the Production and Procurements of Agricultural Products" serves as a new manifestation of the constant concern being displayed by the CPSU and the Soviet Government with regard to strengthening the economies of kolkhozes, sovkhozes and other state agricultural enterprises.

In conformity with this decree, the kolkhozes, sovkhozes and other state agricultural enterprises began receiving unified plans for the sale of products commencing in 1981. In order to retain the existing average level of payments for agricultural output sold to the state prior to 1981, the bonuses paid earlier for the sale of grain, sugar beets, raw cotton, potatoes, cattle, poultry, milk and other products over and above a firm plan are included, commencing in 1981, in the effective procurement prices. The overall annual total of price increases amounts roughly to 3.65 billion rubles.

It bears mentioning that of the total mentioned above, allocated in 1981 for raising the procurement prices, 2. billion rubles were authorized for use by the councils of ministers of the union republics, by agreement with the USSR State Price Committee, for raising the procurement prices for products, the production of which they consider advisable to stimulate. This would make it possible for the economic organs to improve the ratio for the various types of agricultural products and at the same time to retain within each republic the overall total of payments for the appropriate volume of products sold to the state. Whereas earlier bonuses for output were issued only to those farms which over-fulfilled their firm plans for selling products to the state, commencing in 1981 all farms began receiving bonuses included in the procurement price and not at the end of the year, as was earlier the case, but rather immediately with commencement of the sale of the product.

The new system possesses a number of advantages over the system of issuing bonuses for products sold earlier to the state over and above a firm plan. The chief such advantage lies in the fact that it promotes a search for and the mobilization of available reserves for increasing the production and sale of products to the state, during the stage devoted to preparing the annual and five-year plans for economic and social development.

In the interest of furnishing practical assistance to leading workers and specialists in achieving more correct solutions for those problems associated with the payment of bonuses for products sold to the state over and above the average level achieved during the Tenth Five-Year Plan, the USSR Ministry of Procurements, USSR Ministry of Agriculture and the USSR State Price Committee, by agreement with the USSR Ministry of Finances, have developed and approved an instruction on the payment of bonuses added on to the procurement prices, during the 1981-1985 period, to kolkhozes, sovkhozes and other agricultural associations and enterprises, for the sale of agricultural products to the state.

It should be emphasized that financial assistance to agricultural enterprises by the state is not limited to the establishment of bonuses. For example, commencing in 1981 those procurement and other enterprises and organizations which procure agricultural products bear all expenses for the transporting and unloading of those products. When the products are transported using their own transport equipment, the agricultural enterprises and associations are reimbursed for the transport and unloading expenses in accordance with the norms and rates for the particular type of transport used in making the deliveries. Payments are also made for those expenses associated with the shipment of agricultural products and with observance of the additional requirements of those enterprises and organizations which procured the products.

Within the system of an agroindustrial complex, improvements in procurement prices and mutual computations must be examined not from an isolated standpoint but rather in close association with the development of wholesale prices for industrial products and retail prices for food products and consumer goods.

In order to prevent a rise in the prices for agricultural products, as a result of the establishment of new wholesale prices for the means of production and rates, the decision was made to retain the existing rates for electric power being supplied to trade and public catering enterprises and to the population and also for satisfying the production requirements of kolkhozes, sovkhozes and other agricultural enterprises. The rates were also retained for thermal power being supplied to hothouse-hotbed farms, for heating and also for supplying hot water for dwellings and for installations of a cultural-domestic nature.

A system of two price lists for the means of production is also in effect at the present time. Under this system, industrial enterprises sell their products to enterprises and organizations of Goskomsel'khoztekhnika and others at wholesale prices. Kolkhozes, sovkhozes and other agricultural enterprises purchase them at wholesale factory or lower prices. The difference between the wholesale and wholesale factory prices is covered by means of the state budget. Computations have shown that in 1980 the state subsidy for covering the mentioned expenses exceeded 4 billion rubles. This system of computations is being retained for the next few years.

A need exists at the present time for implementing additional improvements in economic relationships between agriculture and industry so as to eliminate the state subsidies. One direction to be followed for solving this problem is that of covering possible price increases for agricultural products through the establishment of higher procurement prices. For example, over the past 15 years the average wholesale factory prices for mineral fertilizers increased from 91.4 rubles per ton in 1965 to 105.5 rubles in 1980. If the procurement prices for grain had remained at the 1965 level, then in order to obtain 1 ton of mineral fertilizer in 1980 it would have been necessary to sell 1,170 kilograms of grain, instead of 1,020 kilograms as was the case in 1965. However, owing to the increase in the procurement prices for grain and the bonuses added on to them for products sold over and above a firm plan or over and above the level of previous years, this did not occur.

At the same time, attention must be given to the close link existing between the procurement and retail prices for food products and consumer goods produced from agricultural raw materials. Thus the retail prices for the principal food products and consumer goods continue to be used throughout the country without change. The rates for municipal and domestic services (apartment payment, electricity, gas, water, municipal transport) are stable and comparatively low. Moreover, in actual practice the retail prices often turn out to be considerably lower than the procurement prices for the raw materials. The state annually expends considerable resources for the purpose of maintaining stable retail prices for milk and milk products, meat and meat products and also other agricultural products.

With each passing year it is becoming increasingly more difficult to eliminate the existing differences in the level and ratio of prices and rates through a redistribution of a certain portion of the national income. A principal condition for successfully solving this complicated problem is that of eliminating all types of forced subsidies and creating conditions for strengthening cost accounting relationships in the national economy. This can be achieved only by improving the inter-branch proportions, establishing scientifically sound and mutually balanced procurement, wholesale and retail prices and also by raising in every possible way the efficiency of material production and strengthening economic policy in all sectors of the national economy.

With further improvements being carried out in the management mechanism for an agroindustrial complex, a number of aspects not only of an applied but also a methodological and methodical nature should be taken into account. For example, one urgent problem is that of changing the individual conditions for computing the production costs for agricultural products and developing the profitability norms when establishing the procurement prices for agricultural products. More valid maximum prices must be developed for industrial products used in agriculture.

Up until recently, many social problems in the rural areas were resolved using kolkhoz and sovkhoz resources. For example, the construction of roads, hospitals, schools, communications enterprises, stadiums, palaces of culture, sewerage and waterline networks, district heating systems and others. In cities, the industrial enterprises participate only partially in the expenses for such work. It would be more correct to create equal conditions for rural and city residents and for industrial and agricultural enterprises and to apply these expenses to the same items as they are applied to in cities, thus releasing the agricultural enterprises from such a heavy burden.

Improvements must be carried out in the methods of economic influence and especially by means of prices aimed at stimulating growth in the production and procurement volumes for high quality agricultural raw materials, achieving more efficient use of the production resources and lowering output production costs. A constant search is underway to find these methods. In our opinion, when developing measures for converting over to the new system of stimulation in 1982, a portion of the funds actually formed by means of 50-percent bonuses should be placed at the disposal of the union republics.

Internal accounting prices are being employed more extensively in mutual relationships between interfarm and integrated enterprises and associations. The correct distribution of the gross income obtained by the interfarm enterprises and also the schedules for introducing industrial methods into production operations are greatly dependent upon the level of these prices.

At enterprises which retain their legal independence, accounting prices appear as an organizational-technical instrument for strengthening cost accounting and as a stimulus for lowering production expenses.

Under interfarm cooperation, the accounting prices have an overall economic foundation together with the state procurement prices. Distinct from the latter, they are much closer to the individual cost of products and they fix the actual expenses for products produced in a definite echelon of a single technological process. Under the conditions imposed by intense social division of labor, the number of technological stages may increase. Thus special importance is attached to ensuring that the accounting prices serve to interest all of the farms and each agroindustrial association in developing specialization, in achieving steady growth in the productivity of social labor and in lowering expenditures in all stages of output production.

When developing recommendations for substantiating the level of procurement prices, a substantial problem is their organic interrelationship with other prices in the price system. In addition, a requirement also exists for such interrelationships with financing, the issuing of credit and other forms for regulating production, distribution, exchange and consumption. Special attention must be given to the ratio for the procurement prices for forage crops and animal husbandry products and also the retail prices for flour and baked bread. The fact of the matter is that a relative reduction in the price for baked bread does not stimulate a thrifty attitude towards its use. Owing to the rapid development of territorial agroindustrial and food complexes, an extremely urgent problem at the present time is that of developing prices which reflect the production relationships and proportions in the sale of the principal and secondary products of production.

During each stage in the production and processing of raw materials, in the transporting and storage of products and in their sale and consumption, these prices must correctly reflect both the cost accounting interests of enterprises and collectives and the interests of society on the whole. Thus the problem of establishing more valid and mutually related wholesale prices and rates for the means of production and for agricultural services and also the procurement prices for agricultural products and the retail prices for food products and consumer goods produced from agricultural raw materials is to a greater degree becoming an inter-branch problem. In turn, this raises the need for combining the efforts of specialists from various branches and for coordinating a complex of studies aimed at further developing and improving economic relationships within the country's agroindustrial complex.

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Agro-industrial Price Structure

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 82 pp 43-46

[Article by E. Sagaydak, candidate of economic sciences and head of a department at the All-Union Scientific Research Institute of Agricultural Economics and L. Schastlivtseva, candidate of economic sciences and senior scientific worker at the All-Union Scientific Research Institute of Agricultural Economics: "On Methods for Achieving a Price Balance Between Industry and Agriculture"]

[Text] In the decisions handed down during the July (1978) Plenum of the CC CPSU and the 26th CPSU Congress, substantial attention was focused on improving economic relationships within the country's agroindustrial complex, including improvements in the formation of prices. In this regard, vital importance is attached to revealing the price disproportions for the means of production being supplied to agriculture and for agricultural products.

A close relationship exists between the procurement prices for agricultural products and the prices for the means of production being supplied to agriculture, since the latter participate directly in the formation of the production costs for agricultural products. At the present time, a number of substantial contradictions are to be found in the price relationships under review. For certain types of means of production (agricultural equipment, mineral fertilizers), there is a twofold price list containing two price levels -- wholesale prices for industry and lower wholesale factory prices for agriculture. The difference between them is covered by means of the state budget. For the entire volume of products having two price levels, the state subsidies amount to 4 billion rubles. It is our opinion that the availability of reduced prices does not interest the kolkhozes and sovkhozes sufficiently in ensuring maintenance of the means of production or their efficient utilization.

At the same time, even in connection with the sale of industrial products or services to agriculture, at lower wholesale factory prices, growth takes place in the production costs for the agricultural products owing to a price factor that is not compensated for by a corresponding increase in the procurement prices. A price imbalance occurs which, in the opinion of a number of researchers, provides industry with a definite advantage.

Thus an urgent task in this regard is that of examining several approaches for determining price conformity between industry and agriculture, from the standpoint of their theoretical validity and the possibilities for their practical use for balancing prices. We are of the opinion that the following approaches are of greatest interest:

...ratio of indexes for procurement prices and prices for means of production and services provided for agriculture;

...ratio of indexes for procurement prices and current material and capital expenditures for the production of agricultural products;

...use of an inter-branch balance for determining price relationships in an APK system.

In the first of the mentioned approaches, the indexes of prices for agricultural products and the prices for means of production and services provided for agriculture are compared. A price balance is achieved when the ratio for the price indices equals one. This constitutes an evaluation criterion for the given method. A deviation in excess of one signifies an imbalance in favor of agriculture and a ratio less than one -- an imbalance in favor of industry.

It should be noted immediately that the method under review provides not indication as to the degree of equivalence of exchange, since the ratio for the indices does not reveal whether or not the prices were established in conformity with the socially required labor expenditures. In conformity with this method, a price balance can be achieved even when the procurement prices do not compensate fully for the expenditures incurred. Towards this end, it is sufficient for the increase in procurement prices for agricultural products and the wholesale (wholesale factory) prices for the means of production to proceed at uniformly accelerated rates. One shortcoming of this particular methodological approach is that it does permit a determination to be made of the absolute value of a price imbalance.

However the method involving a ratio of price indices possesses definite merit in the sense that it makes it possible to discuss the feasibility of its use in Soviet statistics. It reveals a tendency towards price movement for a definite period. A divergence in the price indices serves as a barometer for determining the degree to which the rate of growth in the procurement prices lags behind or has exceeded the rise in prices for the means of production. The higher the degree of divergence in the price indices, the greater will be the need for more urgent measures aimed at leveling off their ratios.

We computed the divergence in the indices for procurement prices and wholesale prices for means of production supplied to agriculture during the 1966-1979 period and it revealed that the price ratio for the most part did not favor agriculture during this period of almost three five-year plans. Party policy with regard to increases in procurement prices has been such that during the past few years the divergence in the indices has decreased substantially. Nevertheless, it is still considerable and this indicates that industry must search for reserves for lowering the wholesale prices.

Another approach for determining price conformity was developed at the Institute of Economics of the Academy of Sciences for the Ukrainian SSR. It is also based upon use of the index method. The same evaluation criterion for price balance is utilized. The principal difference consists mainly of determining the price index for means of production.

A computation of the effect of an increase in prices for the means of production for agricultural products is carried out in several stages. Initially, a determination is made as to the effect generated by an increase in prices for the means of production and for services provided for agriculture, upon the production costs for kolkhoz and sovkhoz output. Thereafter, a computation is carried out on their effect on agricultural expenditures, in terms of capital investments covered by internal means. Finally, a determination is made as to the total index for growth in prices according to current and fund expenditures, which is then compared against the procurement price index.

Such an approach makes it possible to take into account in a more accurate manner the effect of a rise in price for the means of production upon agricultural expenditures and to reveal the influence of the price factor on a reduction in the profitability of the kolkhozes and sovkhozes. In addition, using this particular methodical approach it is possible to obtain an absolute value for the price imbalance and this is of great practical importance for regulating interrelationships within the APK /agroindustrial complex/ system.

One conditional aspect of this method lies in the fact that, in terms of mineral fertilizers, petroleum products and feed, the indices obtained describe to a great degree a change not only in the prices but also in the expenditures associated with their delivery. When analyzing the reasons for a reduction in the profitability of agricultural output, importance is attached to taking into account all expenses. Thus we believe the assumption to be correct. However, during a more detailed study of the dynamics of prices for the means of production, this indicator should somehow be changed into a more "refined" form, since the price indices can differ somewhat from the indices for expenditures.

In the Department of Price Formation at VNIESKh /All-Union Scientific Research Institute of Agricultural Economics/, jointly with workers from the Institute of Economics of the Academy of Sciences for the Ukrainian SSR, a computation was carried out aimed at revealing the price balance between industry and agriculture for kolkhozes and sovkhozes in the USSR (see Table 1, data for 1966-1970 period accepted as being equal to 1).

It is apparent from the table that the ratio for the price indices deviates only slightly from one. This signifies that the price imbalance is comparatively small when expressed in absolute figures. Moreover, in the case of kolkhozes the price balance was disrupted in favor of industry and for the sovkhozes -- in favor of agriculture. This is explained by the fact that the use of common procurement prices when converting the sovkhozes over to complete cost accounting promoted to a greater degree an increase in the prices for sovkhoz products than it did for kolkhoz products.

Table 1

Computation of Coefficient of Price Balance for Kolkhozes and Sovkhozes of the USSR

	Kolkhozes		Sovkhozes	
	1971-1975	1976-1979	1971-1975	1976-1979
Composite index for growth in all agricultural expenditures for acquiring the means of production	1.150	1.273	1.124	1.221
Index of procurement prices	1.118	1.203	1.203	1.327
Ratio of indices	0.972	0.951	1.07	1.087

In addition to the price factor, growth in agricultural expenditures is also conditioned by the existing rates of growth for productivity and wages and by movement of the natural indicators for the material-output and capital-output ratios.

Of interest is an analysis of all factors which affect growth in the expenditures for agricultural output, for the purpose of clarifying the role played by each factor separately. An appropriate computation was carried out using the statistical methods of factor analysis. The results of this computation are furnished in Table 2.

Table 2

Balance for Increase in Cited Expenditures for Kolkhozes and Sovkhozes of the USSR

	Kolkhozes		Sovkhozes	
	1971-1975	1976-1979	1971-1975	1976-1979
Increase in cited expenditures, %	100.0	100.0	100.0	100.0
Including by means of an increase:				
in prices for means of production	57.8	57.5	40.3	41.5
in wages	11.0	8.8	2.8	1.7
insurance payments	4.7	3.5	-	-
natural capital and material output ratios	26.5	30.2	56.9	56.8

Let us examine the role played by each of the factors that bring about an increase in the prices for kolkhoz products. First place in importance is occupied by growth in the prices for the means of production and in expenditures for using them, which during the Tenth Five-Year Plan amounted to 57.5 percent of the overall average annual increase in expenses for kolkhoz output. If we assume that the entire increase in procurement prices is used only for compensating for an increase in expenses by means of this factor, then this compensation will be incomplete for the kolkhozes. In the case of sovkhozes, the increase in prices for the means of production was fully covered by the increase in the procurement prices.

Growth in the production costs of kolkhozes as a result of increased wages, that was not covered by growth in labor productivity, amounted to 8.8 percent of the overall total amount of increase in expenditures. This amount was somewhat less at the sovkhozes -- 1.7 percent. The accelerated growth in wages in the rural areas is associated with the historic process of eliminating agricultural backwardnes in terms of the wage level and compared to industry. The average wage in industry at the present time is 180 rubles and in agriculture -- 146 rubles and this raises the possibility of a trend towards leveling off these wages in the future. Since this process is also objective in nature, we consider it advisable to compensate agriculture through prices and these expenditures.

Growth in the specific and real capital and material output ratios exerts a substantial effect on an increase in prices for agricultural products. At kolkhozes, this is the second factor of a rise in prices in terms of size and at sovkhozes -- the first. During the Tenth Five-Year Plan, it amounted to 30.2 and 56.8 percent of the total amount of increase in expenditures.

There are those who hold that this portion of expenditures must not reimburse agriculture by means of an increase in procurement prices, since the increasing expenses associated with an increase in the capital output ratio must be compensated by an increase in agricultural output. However, it should be borne in mind that an increase in expenditures as a result of this factor derives from both objective and subjective causes. Included among the objective causes are the peculiarities of the functioning of capital in agriculture. In view of the seasonal nature of agricultural production, in order to achieve the same rate of output growth it will be necessary to have more fixed productive capital than is found in industry. Meanwhile, historically agriculture lags behind industry in terms of capital-labor ratio. It is presently approximately 60 percent of the level for industry. Hence, growth in the capital-output ratio is at the present time a justified process.

It bears mentioning that, distinct from industry where an improvement in the quality of the principal types of means of production is expressed mainly in growth in equipment productivity, agricultural equipment does not lead directly to an increase in the production of farming and animal husbandry products, but rather through the creation of conditions for the carrying out of work in keeping with the agro-technical schedules, reducing losses during crop harvesting operations and so forth. Mineral fertilizers and mixed feed constitute an exception; here a direct relationship is observed between expenditures for the means of production and increased output.

The effect realized from the use of equipment in agriculture is expressed mainly in its ability to economize in the use of live labor and this is also a factor which serves to compensate for an increase in the capital-output ratio, together with an increase in output. Definite achievements have been realized in this regard. Thus, the average number of workers at kolkhozes in the USSR during the Tenth Five-Year Plan and compared to the Eighth Five-Year Plan decreased by more than 3 million individuals. The relative reduction in workers, taking into account the growth in labor productivity, amounted to more than 5 million individuals.

An increase in the capital-output ratio must be compensated by a savings in wages in those instances where the rates of growth for labor productivity exceed the rates of growth for wages. However, as pointed out above, a peculiarity of this modern stage in agriculture is the fact that a reduction in the number of workers is taking place simultaneously with an increase in the wages for workers. According to our computations, wages in the rural areas increased by more than 60 percent during the last three five-year plans and in order to compensate for the increase in the capital-output ratio this increase should have been only 20 percent. One factor which brings about an increase in the capital-output ratio for agricultural output is the growth that is taking place in passive capital compared to active. The investments in passive capital (buildings and installations) are growing considerably more rapidly (see Table 3, data for the 1966-1970 period accepted as being equal to 1).

Table 3

Rates of Increase in the Passive and Active Portions of Productive Capital When Evaluating Them in Basic Prices of the Eighth Five-Year Plan

	Kolkhozes		Sovkhozes	
	1971-1975	1976-1979	1971-1975	1976-1979
Buildings and installations	1.53	2.12	1.87	3.18
Technical equipment	1.19	1.47	1.42	2.02

The proportion of passive and active capital has changed substantially. Compared to the Eighth Five-Year Plan when it amounted to 72.8 and 27.2 percent respectively at kolkhozes, during the Tenth Five-Year Plan -- 79.4 and 20.6 percent.

At sovkhozes, this ratio changed as follows: from 68.4 and 31.6 percent to 77.3 and 22.7 percent.

An improvement in the structure of capital would promote a reduction in production expenditures in agriculture. Obviously, there are areas and incidents wherein growth in the capital-output ratio has been associated with the thriftless use of capital. Unfortunately, it is practically impossible at the present time to determine a quantitative value for an increase in expenditures by means of objective and subjective factors. Thus, we are of the opinion that at the national economic level it is advisable to compensate for a considerable portion of the expenditures associated with growth in the capital-output ratio by means of procurement prices.

A comparison of prices against labor expenditures for the production of goods provides the foundation for the third methodical approach for determining the equivalence of exchange. It was developed at the Scientific Research Institute of Prices. An inter-branch balance is used for solving the assigned task. The selection of a criterion, based upon which the degree of equivalent exchange is determined, provides the basis for the methodological complexity. In work carried out at the institute, the average national economic gross income for an expended manhour (ruble of output) is used as the criterion. A comparison of it against the actual gross income produced, by branches of the national economy, provides an appreciation of the equivalence of exchange. The degree of equivalence is computed using the following formula: $p=al$, where p is the price ratios corresponding to the conditions of the equivalence of exchange and to the effective prices; a is the deviations of the branch's gross income and the corresponding average national economic evaluation of labor expenditures from the actual level (in a computation for unit of output); l is the matrix of the coefficients for the complete expenditures of the inter-branch balance.

In evaluating this particular methodological approach, its criteria should be examined first of all. The value for the gross income used in the formula, which corresponds to the average national economic evaluation of labor expenditures, can only be determined approximately, since the differences in the complexity of labor are not fully taken into account. The authors provide an equal evaluation of an hour of live labor, expended for the production of any type of product, while being distracted from the fact that labor in terms of quality differs in the various branches. More accurate accounting for the differences in the quality and complexity of labor could result in a substantial decrease in the total amount of non-equivalence obtained. But this would require solutions for a number of problems concerned with labor output and a determination of the socially required expenditures of labor in connection with the formation of the entire system of prices in the USSR. As further progress is achieved in solving the mentioned problems using the proposed method, more accurate results will ensue.

All of the methodical approaches under review are of definite value for uncovering and regulating the price balance between the I and II spheres of the APK /agroindustrial complex/. The use of index methods appears to be more efficient (right up to the possible annual use by USSR Gosplan, USSR CSA and the USSR MSKh /Ministry of Agriculture/). The possibility of employing the method of price conformity, involving use of an inter-branch balance, is dependent upon the periodicity of development of this balance.

At the same time, it bears mentioning that the possibilities for utilizing any method for determining and regulating price conformity are dependent to a considerable degree upon a correct selection and evaluation of the base period for comparative computations for determining the price balance (imbalance). Such a period must encompass those qualitative changes having to do with both the procurement prices for agricultural products and with the wholesale prices for industrial means of production being supplied to agriculture, that is, the changes aimed at improving cost accounting relationships and optimizing the reproduction conditions in agriculture. In view of all this, the Eighth Five-Year Plan (1966-1970) was selected as the base period; it was during this period that the principal measures aimed at improving procurement prices in conformity with the decisions handed down during the March (1965) Plenum of the CC CPSU were implemented and a number of measures were carried out (especially as a result of the 1967 reform) aimed at improving the prices for industrial means of production intended for use in agriculture.

It should be borne in mind that improvements in the price relationships between spheres I and II of the APK affect agricultural interests to a greater degree than they do the industrial interests, since changes in procurement prices (distinct from changes in the wholesale prices for industrial means of production for use in agriculture) do not directly affect the production costs for industrial output, but rather are reflected in the relationships between agriculture on the one hand and the budget and the national economy as a whole on the other. Thus, when regulating the price relationships between spheres I and II of the APK, priority importance is attached to observance of the interests of agriculture.

The effectiveness of use of all methods for uncovering and regulating the price balance is dependent to a considerable degree upon bringing together the principles underlying the establishment of prices for the output of various branches of the APK and upon the possibility of converting over to a single type of price within the framework of this system.

In conclusion it should be noted that, while occupying a leading position in the system for regulating the proportions for an equivalent exchange between agriculture and other branches of the national economy, the task of ensuring a price balance is still not solving the problem of equivalence on the whole. This requires taking into account the economic interrelationships of agriculture with the budget and other branches of the national economy in their entirety.

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Ceiling Price Effect

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 82 pp 47-50

/Article by . . Kolotushkina, doctor of economic sciences and senior scientific worker at the All-Union Scientific Research Institute of Agricultural Machinery and G. Nazarova, junior scientific worker at the Scientific Research Institute of Potato Growing: "Ceiling Price -- An Economic Lever for Controlling Technical Progress"/

/Text/ At the present time, the wholesale prices for new agricultural equipment are established in conformity with the method entitled "Determining the Wholesale Prices for New Products of a Production-technical Nature" (Preyskurantizdat, 1974), while also taking into account the minor changes and additions associated with the problem of stimulating technical progress, raising quality and achieving economies in the use of material and labor resources. These changes and additions were established based upon the decree of the CC CPSU and the USSR Council of Ministers entitled "Improvements in Planning and Intensifying the Effect of the Economic Mechanism with Regard To Raising Production Efficiency and the Quality of Work."

It is known that all previous methods, including the method for "Determining the Wholesale Prices for New Agricultural Machines" (Preyskurantizdat, 1969), were abolished upon the publication of the above-mentioned method.

Thus the method for determining the wholesale prices for all new products of a production-technical nature, including new equipment for agriculture, has remained in use up until the present time without substantial changes.

This method is based upon the Marxist-Leninist teaching concerning the value of labor. It is predicated upon the fact that prices must express the socially required expenditures for labor and cover them to the maximum possible degree.

Under the conditions of developed socialist production, the social division of labor has made great strides. Thus a solution for the task of bringing the prices closer to the socially required expenditures is possible only through a comparison of the two price limits: the upper -- according to the conditions of use (utilization) and lower -- according to the manufacturing conditions. A wholesale price for new equipment must be held within these limits and at no time exceed the upper limit. Only under these conditions will new equipment be effective in operation and its price approach the socially required expenditures to the maximum possible degree.

Thus the process of price formation for new equipment is based upon a consideration of the social interests of the two spheres: the use (utilization) and manufacture of this equipment. In the process, the upper price level for new equipment must be formed in agriculture, since the principal technical-economic parameters for the use of agricultural equipment in the future are created in this sphere. There are two such parameters: the one is technical -- productivity (output), while the other is economic -- ceiling price. The above-mentioned parameters for future equipment must be formed when preparing the scientific-technical progress program for agriculture for a period of 20 years. For all practical purposes, it is impossible to prepare such a program in the absence of these parameters, since they are the initial base for the program. It is known that such programs were called for by the 26th CPSU Congress and by the above-mentioned decree of the CC CPSU and the USSR Council of Ministers.

As is known, the programs for scientific-technical progress for 20 years are a new undertaking and work on them has just commenced. Thus, at the present time the principal parameters for the future equipment for agriculture are being determined based upon the indicators for the five-year plans for growth in labor productivity and a reduction in the production costs for agricultural products.

Data on raising labor productivity for individual technological processes concerned with agricultural output can be obtained by using the data from the long-range plan for developing mechanization in agricultural production, developed for all technological production processes concerned with agricultural output for a period of from 5 to 10 years. The foundation for this work is a technological production chart for each type of product from a zonal standpoint. Based upon these charts, technological machine complexes are composed for mechanizing the cultivation, harvesting and post-harvest processing of the principal agricultural crops, with a detailed list of the technical equipment.

"Machine systems for the all-round mechanization of agricultural production" began to be developed in 1955, usually for a period of 5 years. At the present time, indicators have been developed for a system of machines for the 1981-1985 period and up to 1990. Thus the principal parameters for the new equipment, for the purpose of computing the ceiling price, must be selected from this data.

At the present time, the ceiling price for new equipment, as already stated above, must be computed using the formula for the method "Determining the Wholesale Prices for New Products of a Production-Technical Nature." The ceiling price according to this method is 0.8 for the upper price limit, at which it would be equally advantageous to use either the new or old equipment. Thus 0.8 represents a coefficient for a reduction in prices that is associated with a decrease in expenses for the production of goods (in our case, machines), as a result of the mastering of series production.

It is apparent from the formula developed on such a ratio that its principal part is the upper price level for the new equipment. The value for this limit must be such that use of the new machine will be equally advantageous from the old and similarly arrived at base. In this instance the complete expenditures for work carried out with the aid of new and similar basic machines will be the same.

Thus the formula for the upper price limit is derived from the equality of the cited expenditures (or normative prices) for work that is being carried out by traditional machines and will be carried out by new machines or methods; moreover it is obtained as a result of appropriate changes in the cited expenditures.

Unfortunately, the existing method for determining the ceiling prices has a number of shortcomings.

One such shortcoming is the fact that the formulas mentioned above for computing the ceiling and upper price limit are universal for all products of a production-technological nature having an extended (more than 1 year) service life, including such specific items of use as agricultural machines and equipment. Correct computations using the formulas of the method require considerable skill both in the area of general questions concerned with effectiveness and price formation and in connection with problems associated with specific branches; the consumers and producers of the particular items of equipment. Owing to a shortage of such specialists, the feeling is widespread that the formula for converting the cited expenditures has been arrived at incorrectly, since a check on the computation of the upper price limit often fails to ensure their equality.

But the principal shortcoming of the existing method is the absence of a determination of the economic essence of the ceiling price, despite the fact that it is stated that it is a mandatory parameter for a technical task and that it reflects the achieved level of expenditures. Unfortunately however, it is not stated where or in which sphere. Hence, logical confusion develops when determining the ceiling price, both when using this method and also among other authors.

For example, it is pointed out in the method that the ceiling price is computed using the formulas for determining the upper price level, that is, based upon the sphere of use for the new equipment and it would seem only logical to find indicators (coefficients) in this sphere which, in accordance with their economic essence, separate the ceiling price from the upper price limit and thus scientifically prove the economic requirement for a ceiling price during all stages in the creation of new equipment. But the authors were inconsistent. When validating the formulas for determining the ceiling price, they proceeded only on the basis of the sphere of production, that is, they took into account the obsolescence of the first order -- a reduction in the production costs -- and they referred to it as the V coefficient for a reduction in prices. Obsolescence of the first order, which arises as a result of technical progress in the production technology, should be taken into account beyond any doubt. However, it is not the principal or even the only factor to be considered when determining the ceiling price, which is now the object of a great amount of attention (as the upper limit of the wholesale price for new equipment) in a number of normative documents and in practical work carried out in the sphere of price formation.

The economic essence of and practical need for a ceiling price derive from the fact that the consumer (in our case -- agriculture), by means of the ceiling price, exerts an economic influence on his own technical progress, by planning and ordering new equipment while using parameters which will ensure him a planned (normative) effectiveness.

Thus a ceiling price is required first of all for forecasting and planning economically effective technical progress in branches -- consumers of equipment -- when the branches are composing orders requesting the creation of new equipment. And only following this does the ceiling price begin to perform the function of the upper price limit during the design and manufacturing of equipment.

Based upon the above, it is quite illogical for an entry in the method to indicate that for basically new items that are being developed for the very first time in the USSR and which do not have analogs in production output, the ceiling price must be determined based upon consolidated normatives for the material and labor expenditures required for their production. This formulation readily sets forth the misunderstanding which exists regarding the economic essence of the ceiling price. As early as 1969, a method was made available, albeit not with great success, for determining the ceiling price for agricultural machines. This method is still in use today. In accordance with this method, the price level is determined based upon the advantages which agriculture realizes once new equipment is placed in use. The use of such equipment makes it possible to mechanize new and quite often additional technological processes. Were it not for this equipment, a technological process could not be carried out (for example, the production of hay meal, campaign against soil erosion, mineral fertilizer applications simultaneous with sowing and so forth).

What form should the formula for a ceiling price take in order for new equipment, within the assigned operational parameters, to ensure a reduction in expenses during its use and, it follows, a reduction in the production costs for agricultural products, the production of which involved use of this machine?

Such a formula for a ceiling price can be derived from the inequality of the cited expenditures for the production of agricultural products using the traditional method and using new equipment. The magnitude of the inequality must provide agriculture with a planned reduction in expenditures for the production of a unit of its output prior to the moment of mass use of the new equipment: $Z_{\text{б}} > Z_H$, where $Z_{\text{б}}$ and Z_H -- are the cited expenditures for the production of a unit of output using the traditional method and also using new equipment.

The inequality in the cited expenditures can be converted into an equality using the coefficient for a guaranteed reduction in expenditures for the production of agricultural products, planned by means of the introduction of new equipment (σ): $Z_{\text{б}}\sigma = Z_H$.

Hence, we can now determine the ceiling price for the new equipment ($\text{Ц}_{\text{л}}$). Towards this end, from the cited expenditures for new equipment (Z_H), we single out those expenditures which are dependent upon the price of the equipment:

$$Z_H = Z_H' + \frac{\text{Б}_H A_H}{\text{П}_H} + E_H \frac{\text{Б}_H}{\text{П}_H} .$$

where Z_H' is that portion of the cited expenditures which is not dependent upon the price for the new machine, in rubles; Б_H is the balance value of the new equipment, in rubles; A_H is the coefficient for amortization deductions; П_H is the annual output of the new machine in units of work; E_H is the normative coefficient of effectiveness.

Let us insert the value for Z_H in the previous equation and we obtain:

$$Z_{\text{б}}\sigma = Z_H' + \frac{\text{Б}_H A_H}{\text{П}_H} + E_H - \frac{\text{Б}_H}{\text{П}_H} ,$$

Hence we determine the ceiling price $\text{Ц}_{\text{л}}\ (\text{Б}_H)$: $\text{Ц}_{\text{л}}(\text{Б}_H) = \dfrac{(Z_{\text{б}}o - Z_H')\text{П}_H}{A_H + E_H}$

Such an expanded description makes the formula for computing the ceiling price universal in nature for a very simple case, wherein a new means of labor replaces a similar (traditional) type and also for a more complicated situation, wherein new

Results of Computations of Ceiling Prices for New Agricultural Machines Using Various Formulas

Indicators	Technological Process					
	Appl. of min. ferts. New -- using SZU-20 mixer-loader, basic -- two-stage application	Flow-line harvest. of currants. New -- MPYa-1 berry harvest machine, basic -- unit with manual EVM-200-8 agitator	Two-stage grain harvest method. New -- ZhVN-6A, basic -- ZhVN-6	Install. of posts in vineyard using post-drivers. New -- SVG-1V, basic -- SVG-1Б	Sorting of potatoes. New --sorting table, basic -- manual sorting	Planting of potatoes. New -- planter for planting in ridges, basic -- KSM-4
Growth in productivity (output), number of times	1.33	6.44	1.15	1.08	3.50	1.16
Wholesale price of new machine, in rubles	4390	22000	770	550	-	1700
Ceiling price, in rubles						
according to existing formula	6345	35960	1532	1438	5345	2232
according to formula proposed	5139[1] / 5262	31045[1] / 33604	593[2] / 771	341.6[3] / 550.6	4007[1] / 3333	1348[1] / 1699
according to VISKhOM formula	5267	33680	770[2]	552.1[3]	3323	1697
Upper limit, in rubles						
according to existing formula	7931	44950	1915	1798	6682	2790
according to formula proposed	8046	44789	1843.1	2393	6421	2700
according to VISKhoM formula	7909	44790	1842.4	2395	6412	2698

1. In the numerator, with V = 0.8 and σ = 0.8, denominator -- only with σ = 0.8
2. With σ = 0.902
3. With σ = 0.8706

equipment consisting of several types or complexes of machines, makes it possible to mechanize an entire technological process. In addition, this formula will make it possible to determine the ceiling price for new equipment that is scheduled to replace a partially mechanized or completely manual production process and it will also enable a consumer to raise the quality of his output.

Permit us to cite several examples of price computations which we carried out using the existing and proposed formulas and also the VISKhOM /All-Union Scientific Research Institute of Agricultural Machinery/ (see Method for Determining Wholesale Prices for New Agricultural Machines. Preyskurantizdat, 1969).

For comparison purposes, the coefficients of obsolescence (1st and 2d types) equalled 0.8 in all instances. In order to reveal the effect on the ceiling price of each of the coefficients, we carried out two computations using the proposed formula: one using only the coefficient of guarantee σ, and the other using two coefficients: for a reduction in price -- V and guarantee -- σ (see Table).

In the case of the two ZhVN-6A and SVG-18 machines, the use of which ensures growth in output of only 15 and 8 percent, the ceiling price computations using the proposed formula and the VISKhOM formula produced a negative result. This testifies to the fact that the operational expenses for these machines will be higher by 20 percent (σ= 0.8) than the expenses for the equipment used as the base.

What must the coefficient be in order to ensure observance of the principal requirement for a ceiling price -- should it be at the upper limit of the wholesale price?

The computations have shown that this coefficient must be no lower than 0.9 for the ZhVN-6A harvester and for an SVG-1V post-driver -- 0.87, that is, a reduction in expenditures for the carrying out of harvest operations can be guaranteed to only 10 percent and for the installation of posts -- to 13 percent, upon the condition that the balance prices do not exceed 770 rubles for the harvester and 550 rubles for the post-driver.

The ceiling prices computed using the existing formula, with the coefficient V=0.8, were so high that they ensured the establishment of the wholesale price level required by the producer and they also make it possible to obtain "additional profit" from use of the ZhVN-6A harvester in the amount of 762 rubles (1532-770) and from the use of post-drivers (SVG-1V) -- 888 rubles (1438-550). For the new potato planting machine, which ensures an increase in output of 16 percent, the ceiling price, computed using the existing formula, was 30 percent higher than the planned wholesale price and using the proposed formula it was at the wholesale price level.

For checking upon the correctness of the ceiling price formulas and computations, we determined the principal portion of the ceiling price -- the upper price level -- and we computed the cited expenditures using the base and new machines. A comparison of these cited expenditures revealed that their equality was maintained and that the deviations in all instances did not exceed 10 percent, with the exception of the computations carried out using the existing formula, where the deviations reached 19. percent.

In the case of modernized equipment, the existing formula furnishes a very distorted picture, as indicated above. This tends to delude both the consumer -- agriculture and also the producer -- industry and it opens the path for the creation and introduction of equipment that is either totally inefficient or only slightly efficient. The creation and introduction of such equipment is permissible only in one instance -- when it produces a social effect (equipment which improves safety or working conditions).

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Production Quality, Price Relation

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 82 pp 50-51

/Article by E. Bondarchuk, senior scientific worker for NIIEOSKhP of the Ministry of Agriculture for the Moldavian SSR: "Reflection of Product Quality in the Procurement Price"/

/Text/ An improvement in the quality of output is one of the most important factors for raising the efficiency of social production during all stages of socialist construction.

The methods for raising the quality of output are set forth in a system of purposeful technological, organizational and economic measures, for use during all stages in the production and sale of the products.

In controlling the quality of output, the level of effectiveness will depend upon the degree to which the mentioned system of measures has been developed and mastered. A valid procurement price constitutes one of the most important economic levers in this system.

The planned control of output quality must be based upon objective economic criteria which derive from the very essence of the category of quality and the peculiarities of its creation during the production process.

As a totality of properties, quality appears as a physical carrier of use value. Use value, in combination with another factor -- cost -- expresses two aspects of a product created for society. Having a common basic origin, labor, use value and cost are found in a definite dialectic interdependence which can be expressed in the following manner: for each of the given production conditions, an improvement in the quality of a specific type of product requires an appropriate increase in labor expenditures.

The reflection in the procurement price of the expenditures for raising the skills of labor and improving technology and the means of production will promote economic maintenance of output production at the planned level of quality.

The quality of output that is not distinguished by a great variety of types and properties, is determined in marketable varieties and grades. In such instances, when planning the procurement price, the price should reflect that amount of expenditures required for ensuring the production of goods of a definite quality. These parameters can be accepted as basic. Deviations from the accepted basic conditions are regulated by means of deductions and bonuses. The amount of the additional expenses required for ensuring the required degree of improvement in quality and the marketable grade should be established as the criterion for the validity of the amount of bonus to be paid out for having exceeded the basic conditions.

However, valid bonuses and deductions may not always ensure proper control over the quality of agricultural products. In a number of branches vegetable growing, horticulture, viniculture and others), the parameters for output quality are exceptionally many-sided and are determined by a totality of properties.

The variety of properties of the mentioned product is not restricted to sub-dividing into marketable varieties. In this particular case, a pomological variety, as the carrier of a complex of appropriate properties, appears as the indicator of output quality. The classification of output properties according to marketable varieties is somewhat of a subordinate nature here. The many-sided nature of the quality parameters for the output of the mentioned branches dictates the need for a basically different approach for price formation and the development of methods for controlling the output quality.

The differences in the procurement prices for one and the same product derive from the different norms for expanded reproduction for each variety, depending upon the nature of the complex of properties inherent in it and the existing social requirements. The higher the quality of the variety, the higher the norm for expanded reproduction and the higher its procurement price. In this instance, the social demand for a particular pomological variety is reflected in the norm for expanded reproduction. Society advances money to an enterprise for carrying out the expanded reproduction of that type and quality of product which best meets its requirements during the given period.

The mentioned principle of price formation and control over output quality was used by the author when justifying the procurement prices for technical varieties of grapes introduced into operations in the Moldavian SSR in 1976.

The need for improving the procurement prices for technical varieties of grapes was dictated by the persistent requirement for improving the quality of the wine-making raw materials procured. During the 1973-1975 period, approximately 35 percent of the raw materials procured for the wine-making industry consisted of hybrid varieties which furnish low quality wine materials. Less than 10 percent of the grapes procured were processed into wines which have made Moldavian wine-making famous far beyond the borders of the republic. Only one half of the raw materials procured met the basic conditions. The low quality of the raw materials used by the wine-making industry is explained by the condition of the grape plantings. Of 300 grape varieties being cultivated throughout the republic, less than 10 percent have been regionalized. Almost one third of the vineyard areas is occupied by hybrid varieties.

Among the mentioned measures for raising the quality of the raw materials used in wine-making, a very great role must be played by economic levers. A procurement price plan for grapes, developed for the Tenth Five-Year Plan, should have ensured maximum interest on the part of the farms in producing high quality varieties and it should have convinced them regarding the unprofitability of sub-standard grapes and low quality varieties and variety mixtures.

when developing the new procurement price plan for technical varieties of grapes, the socially required expenses for production on the whole were established first of all by branches and the optimum profitability capable of ensuring the assigned rate of reproduction during the Tenth Five-Year Plan was validated. In conformity with this, the planned procurement price for the principal varieties being cultivated in the republic was established. Material interest in expanding the production of high quality varieties was taken into account by means of the norms for expanded reproduction. Thus, for a group of high quality red varieties of grapes (Cabernet, Sauvignon, Saperavi, Merlo, Mal'bek), the norm for expanded reproduction was increased by 30 percent and for high quality white varieties (Muscat Ottonel', Rhine Riesling, Gray Pinot, and others) -- by 40 percent. In the case of the Fetyaska Belaya variety, which occupies the highest proportion of land devoted to grape plantings and which accounted for almost one fifth of the procurements of the wine-making industry, the norm for expanded reproduction was lowered by a factor of three. This variety is distinguished by a low resistance against fungus diseases and quite often 70 percent of its output is of sub-standard quality. At the same time, the norm for the expanded reproduction of the Fetyaska Muskatnaya variety, which possesses a high resistance against diseases and pests and also has good wine-making qualities, was increased by 50 percent.

Deductions and bonuses were established for deviations from the basic sugar content and also deductions for sub-standard grapes owing to damage by pests and diseases and also during harvesting and transport operations.

Over a period of 5 years (1976-1980), as a result of the action of the new procurement price-list, noticeable improvements have taken place in the quality of the raw materials being procured by the wine-making industry. An increase has taken place in the proportion of red grape varieties, which are in high demand, the procurements of variety mixtures and sub-standard grapes have declined and the proportion of high quality manufactured wines has increased.

The new price-list has had a great effect on the varietal structure of the grape plantings. The proportion of European red varieties in the fruit-bearing and non-fruit-bearing plantings increased from 11.3 percent in 1975 to 22.8 percent in 1978. A considerable increase has taken place in the growing areas for the valuable white varieties. Thus the area for the Muscat Ottonel' variety has increased by more than twofold, the Traminer variety -- by more than 3 times and the Sauvignon variety -- by almost 5 times.

The increasing requirements being imposed with regard to the quality of the raw materials used by the wine-making industry and also with respect to the table varieties are raising the need for achieving further and radical improvements in the varietal structure for grapes and for improving its conditions.

An effective means for satisfying these requirements in the future will be economic stimuli aimed at creating the necessary material prerequisites for radically improving the quality of output.

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AGRO-ECONOMICS AND ORGANIZATION

PROBLEMS OF NORM IMPLEMENTATION VIEWED

Expenditure Norms, Formulation

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 82 pp 52-54

/Article by N. Drozdov, candidate of economic sciences and head of a sector at UkrNIIEOSKh: "Essence of Expenditure Norms and Problems of Their Formation"/

> /Text/ At the present time, the planning of agricultural production is being based more and more upon norms which describe the principal parameters required for the sound preparation of plans and the development of truly practicable tasks. The development of this type of norms is continuing. During the November (1981) Plenum of the CC CPSU, Comrade L.I. Brezhnev commented upon one of the problems concerned with this work. "In developing the tasks, norms and indicators for agriculture" he stated, "importance is attached to taking into account, in a very thorough manner, the more probable and more real conditions for a particular region."
>
> A selection of articles having to do with the development and use of norms is herewith published.

The normative method for planning the technical-economic indicators for the development of agricultural production is being employed more and more at kolkhozes, sovkhozes and inter-farm enterprises throughout the country. Its advantages have been proven both in theory and in the experience of individual agricultural enterprises and entire regions in the Ukrainian SSR and Moldavian SSR and in Moscow, Voronezhskaya, Omskaya and other oblasts. The foundation of the method -- a system of technical-economic, technological and organizational-administrative norms and normatives, calculated to ensure the use of a systematic approach for solving the problems of planning. A component part of this system is the NPZ /normativ proizvodstvennykh zatrat; norm for production expenditures/ per hectare of sowing and planting area and per head of livestock and poultry.

A number of methodical materials of all-union or regional importance have been prepared and standard zonal NPZ's for kolkhozes in the Ukrainian SSR have been developed. However, many questions concerned with the methodology for establishing expenditure norms have not been adequately studied. In addition, there are conflicting interpretations of individual statutes and limitations exist with regard to the range of the methods that have been developed for the establishment of norms and also in connection with the sphere of use for the NPZ. In scientific literature dealing with the economics, organization and planning for agriculture, an expenditure norm is defined as "a value for the expenditure of resources," "a summary norm for the expenditure of labor and resources" or as "total expenditures" per hectare of sowing or perennial planting, incomplete production or per head of livestock by types and production groups.

Studies on the essence of norms have shown that an NPZ is a complicated economic category in terms of its content and method of formation and one which aids in determining the socially necessary production costs, the optimum level of production intensity, the proper composition and structure for the logistical resources and also the level of scientific-technical progress in the branch. Thus we cannot reduce their essence to simply a measure of the expenditure of labor and resources in the manner of a consolidated measuring instrument or their role -- to that of an instrument for simplifying the arithmetical computations of the planning and economic services.

Production expenditures are the chief component of social costs. They are formed from the expenses for live and materialized labor, consumed during the production process. It thus follows that the essence of their norms should be defined based upon K. Marx's labor theory of value. "The value of any goods" he wrote, "is determined not by the required working time which is embodied in it, but rather by the working time that is socially required for its reproduction." Subsequently, he drew the conclusion that "...the amount of labor embodied in goods must represent socially required labor..." (K. Marx and F. Engels. Works, Vol. 25, Part 1, pp 153 and 199). The expenditure norms serve as a measure of these socially required expenditures.

Under conditions involving action of the law of value and commodity-money relationships, the norms were expressed in a monetary measurement. At the level of the national economy, they are transformed into socially required production costs and at the enterprise level -- into production expenditure norms. Thus, expenditure norms in a socialist society appear as a planned reflection of the amount of socially required expenditures for total labor at any level of production administration. Thus we understand socially required labor expenditures at the enterprise level to mean not averaged out values for these expenditures, but rather labor expenditures and material-monetary resources that are objectively conditioned by existing forms and methods for providing logistical and labor support and which are recognized by society as being normal for the specific soil-climatic conditions involved.

By synthesizing both the objective and subjective material and physical factors of production, NPZ's express the functional relationship existing between elements of the labor process and they appear as a most important instrument of the regular formation of a measure for the objectively required expenditures.

In studying the essence of NPZ's, one should not overlook still another internal feature -- the dual nature of the formation. On the one hand, this feature is manifested when they appear as individual production costs, the minimization of which is an indispensable condition for observance of the general law regarding economies in time and, on the other -- as an indicator for the level of intensity of farm management, the raising of which is also an objective process. "An intensification of the economy and raising its efficiency" noted L.I. Brezhnev, "consists first of all of having the production results accrue more rapidly than the production expenditures and also of producing more while utilizing less resources for production operations" (Materials of the 26th CPSU Congress, Moscow, Politizdat, 1981, p 40).

Hence, the dialectical unity of the two aspects of an NPZ presupposes a mandatory relationship between it and the volume and quality of the goods produced. In the process, the minimal expenditures required for ensuring the production of the assigned volume of products, in the required assortment and quality, should appear as the norm rather than expenditures generally. Their level is formed directly in the production sphere of agricultural enterprises, upon the condition of optimum use of resources and objects of labor, the rational organization of production processes, optimum intensity of labor and with the existing logistical base, that is, with socially normal conditions of management.

Thus an NPZ is an objectively conditioned measure of the socially required expenditures of live and materialized labor, required for ensuring the production of an assigned volume of products (operations, services) of an established quality. This raises the requirement for a system for forming them under true production conditions. First of all, there should be a preliminary scientific-technical preparation or arranging of information according to the norms for the output and servicing of livestock and poultry and for the expenditure of material resources and other resources. Secondly, the norms must be scientifically sound, possess the required variety and conform to the specific conditions of the object for which the norm was established.

The principle of unity of the initial computing base requires stable indicators, by elements, in a real and monetary expression. These indicators can serve as the basis for the development of final norms for the intra-farm, operational, annual and long-range planning of the activities of enterprises on the whole and also their subunits. The synthesized primary norms for individual types of products can be combined (consolidated) for a cost accounting subunit, individual enterprise or for their totality. This makes it possible to ensure the development of both individual and group norms, in complete conformity with the structure, the method of formation and the reflection in the annual reports. In addition, the availability of primary expenditure norms for individual technological operations or their complexes will make it possible to improve substantially the system of operational planning, accounting, control and production analysis.

The principle of creating a variety of primary norms derives from the diverse nature of the production conditions. A study of this problem, the experience accumulated in the technical establishment of norms for agricultural labor and the experience gained in solving similar problems in other branches reveal that it is possible to take into account the diverse managerial conditions found at each enterprise, but only if an adequate variety of norms, by elements, is created in the form of a multi-variant presentation and composition for them.

A systems approach with regard to the formation and use of NPZ's derives from the technological, technical and organizational-economic complexity of modern agricultural production and from the need for an all-round normative base for expenditures for all types of intra-farm plans and for an entire list of types of work, products and services. Here the composition and structure of an NPZ must ensure the possibility of a true evaluation of the scientific-technical level of the norms, their progressive nature and the degree to which they conform to the modern status of the logistical base. The development of NPZ's should involve a minimum amount of labor intensiveness and also the use of simple methods for correcting them. This can be achieved only by creating the required diversity in the primary norms and also through the automatic replacement of elements used earlier by others which correspond more to the new conditions.

Observance of the principal conditions during the formation of the NPZ's is making it possible to develop norms having properties prescribed earlier. They are suitable for composing scientifically sound plans and for balancing them and improving their quality, methods for operational and annual analysis of plan fulfillment and systems for the economic evaluation of the activities of enterprises and their subunits. The all-round use of NPZ's exerts a substantial influence with regard to raising production efficiency and intensifying a regime aimed at achieving economies.

Studies have made it apparent that any technological process for the production of agricultural products can be viewed as a specific combination of individual technological operations. In some branches, the type of technology employed for the production of agricultural products is determined not so much by the type of technological operation but rather by the structural relationship for the volumes of work carried out. Thus, in connection with the modern technologies for the cultivation and harvesting of corn, sugar beets and other row crops, a sharp increase has taken place in the volumes of work associated with the pre-sowing applications of herbicides and work concerned with tending the crops is being reduced to a minimum or eliminated entirely.

Labor expenditures for carrying out individual technological operations are formed under the influence of considerably fewer factors. Moreover, a majority of the operations are common for many types of products or their homogeneous groups. For example, in field crop husbandry such technological operations as tillering, disking, harrowing, cultivation, plowing, transporting and the application of fertilizers, transporting of products and so forth are carried out in connection with the cultivation of all agricultural crops. Many operations are common to a majority of the crops. A similar situation is to be found in animal husbandry. Thus, norms should ideally be established for individual technological operations or their complexes, presented in a multi-variant form.

The analytic method assumes such a differentiation for the production expenditures for individually standardized elements and items. Here each of the elements in a monetary expression must be divided up into physical and monetary parts. The physical portion of the primary norms for technological operations is very stable from the standpoint of time. Once developed, it can be used for the formation of an NPZ for a number of years with no substantial corrections being made. This same property of high stability is also displayed by the physical portions of the primary norms for expenditures not associated directly with fulfillment of specific technological operations: expenditures of seed, feed, mineral and organic fertilizers, toxic chemicals and so forth.

The evaluations of primary physical norms -- expenditure for the payment of one man-hour, an all-round price for fuel and lubricating materials, the cost for one ton-kilometer, a horse-day, mineral fertilizers, toxic chemicals and so forth -- are developed by individual units, based upon the overall principle of multi-variant formation. This simplifies considerably the task of correcting them and also the process of evaluating the physical norms. In connection with the amortization and current repair of fixed production capital, the norms are also developed in a multi-variant form, while taking into account the accepted method for distributing them.

A synthesis of the final norms per hectare of planting and per head of livestock is carried out based upon the primary norms and the accepted technology for output production. This ensures a high level of reliability, authenticity and effectiveness in the use of norms for production expenditures, within the overall mechanism for the management of agricultural enterprises during this modern stage in their development.

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Aggregate Profitability Norms

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 82 pp 54-57

/Article by V.Ye. Protasov, candidate of economic sciences and senior scientific worker at UkrNIIEOSKh; T.A. Yushina, candidate of agricultural sciences and senior scientific worker at the Scientific Research Institute of Planning and Standards of USSR Gosplan;and A.M. Chursin, chief of a department in the Main Planning and Economics Administration of the USSR Ministry of Agriculture: "Aggregate Profitability Norms for Agricultural Production"/

/Text/ A most important trend with regard to implementing improvements in planning work is that of ensuring that the five-year and annual plans reflect proportional and balanced development for production, based upon the extensive use of systems of norms. Moreover, for the most complete and efficient use of all types of available resources, the entire system of norms, economic levers and stimuli must be merged into a single norm for final results.

It is our opinion that an aggregate profitability norm for agricultural production constitutes just such an overall summary indicator. The experience gained in developing the methods and the profitability norms for planning the development of agriculture for the 1981-1985 period has shown that many tasks concerned with the further development of kolkhoz-sovkhoz production are being solved: achieving a proper balance between the rates of growth in the production volumes and results on the one hand and the logistical and financial resources, fixed production capital and volumes of capital investments on the other, differentiated consideration of the natural and economic factors of agricultural production by union republics and economic regions of the country and the use of the best economic levers for achieving more complete mobilization of the reserves of kolkhozes and sovkhozes and for raising the efficiency of social production.

As is well known, practical and scientific work are distinguished by two types of profitability -- national economic (or complete) and cost accounting. The first is determined by the entire amount of net income created by workers at agricultural enterprises within the material production sphere and the second -- by the amount of net income established by an upper limit -- the procurement price established by the state.

At the same time, in planning work and in work concerned with improving the economic mechanism, an optimum amount must be established for cost accounting profitability, one which describes the profit (net income) to be placed at the disposal of enterprises for ensuring the expanded reproduction of agricultural output at the planned rates. It is fully obvious that the minimal cost accounting level of profitability must be that at which the farms realize profit in amounts adequate for expanded reproduction, for the replacement of fixed capital, for the creation of incentive funds and for achieving growth in housing and cultural-domestic construction, with active participation by the state in developing production, using funds centralized in the state budget.

Based upon the above, the profitability level for agricultural production, for planning agricultural development for the 1981-1985 period, is formulated as a ratio of net income (profit) to the production cost for commodity production and to the average annual value of productive capital of an agricultural nature, which ensures the expanded reproduction of fixed and working capital in conformity with the planned rates for an increase in output, deductions for the budget and the formation of reserve and intra-farm funds for material incentives and public consumption. Here the profitability norm, in percentages of the complete production cost for commodity production, reflects the planned norm for the effectiveness of resources consumed during the production and sales process or the current production expenses for the production and sale of the commodity portion of the output and the norm for its reimbursement. The aggregate profitability norm, in percentages of the average annual value of the production capital of an agricultural nature, describes the planned norm for the effectiveness of use of the fixed and working capital of an enterprise, for reimbursement for the output produced and also for expanded reproduction in the new cycle.

The method for developing aggregate profitability norms is based upon the concept of corrected socially necessary expenditures for labor (materialized and live). In conformity with this, value is formed under the influence of all factors affecting a change in labor productivity and its modified amount is determined by adding a definite portion of the net income (profit) to the output production cost, proportional to wages and the production capital and taking into account the withdrawal for differential rent. It has been established that the greater the savings fund, the higher will be the profitability norm, assuming all other conditions are equal.

Thus the aggregate profitability norm for agricultural production represents that relatively optimum amount of funds required for ensuring expanded reproduction of agricultural output at the planned rates from a national economic standpoint and the production and financial activities of kolkhozes and sovkhozes.

The aggregate profitability norms for agricultural production are expressed in two formulas. In the first instance, the norm is defined as the ratio of net income (profit) to the complete production cost for commodity production and in the second -- as the ratio of net income (profit) to the production capital, which appears as the average annual value of the fixed productive capital of an agricultural nature and standard fixed capital. The latter norm was computed according to a system adopted in other branches of the national economy and thus it lends itself to comparison from a national economic standpoint.

The aggregate profitability norms for agricultural production were developed in the form of a scale of the annual rates of growth in gross agricultural output (in comparable prices of 1973) ranging from 1 to 10 percent. Thus they can be used extensively in different computations when developing the draft plans for economic and social development.

The rates of growth for gross output are dependent upon the degree to which it is supported in terms of its principal elements, the reproduction of which in turn determines the amount of net income required for this purpose. Thus, during the first stage in developing the norms, the relationship between growth in gross output and the principal elements of production -- live labor, fixed capital, working capital and production costs -- was determined.

The computation of the aggregate profitability norms for agricultural production is based upon initial data for 13 years, according to the following indicators: gross agricultural output in comparable 1973 prices; fixed capital of an agricultural nature; standardized working capital at sovkhozes and material working capital at kolkhozes; the norm for working capital at sovkhozes; working capital of an agricultural nature at kolkhozes; earnings for agricultural commodity production, including the sale of products obtained from the processing of such output, complete production cost for commodity agricultural production; the value of perennial plantings and productive and working livestock of the principal herd; the wage fund in agricultural branches, less deductions into the centralized funds for social insurance and social security, the average annual number of workers in agricultural production, deductions into the reserve fund for covering losses not covered by the income of past years, deductions for the construction and repair of state roads; wage fund, losses in the housing and municipal economy and expenses for the maintenance of cultural-educational institutes and young pioneer camps.

In developing the initial information, use was made of digests from the USSR CSA, special thematic works of statistical organs, composite annual reports of kolkhozes, sovkhozes and interfarm enterprises and the plans for the economic and social development of agriculture for the 1976-1980 period, by oblasts, krays, ASSR's and union republics. In working the information, computations were carried out which ensured that the proper comparisons were made.

The smoothing out of the dynamics of gross agricultural output was carried out using the method of least common multiples, in accordance with a model curve which conforms more completely to the existing principles for the development of agricultural production during a given stage.

In order to determine the relationship between gross output and the norm-forming factors, use was made of the relationship and dependence existing between the rates of growth in gross output and productive capital, productivity and wages, complete production costs for commodity production and earnings realized from it and also other indicators required for determining an aggregate profitability norm.

The coefficient of deviations in the annual rate of growth (reduction) of a definite factor from the coefficient for rate of growth in gross agricultural output has become a quantitative expression for the relationship existing between the norm-forming elements. For example, if during the base period the rate of growth in gross agricultural output, on the average for kolkhozes in the Ukrainian SSR, equalled 1.0321 and the coefficient for the annual rate of growth in fixed productive capital of an agricultural nature equalled 1.0925, then the coefficient of deviations would be 1.0585 (1.0925 : 1.0321). In other words, during the period under review the fixed productive capital of an agricultural nature increased more rapidly by a factor of 1.0585 than did the gross output.

Thus, if the task is assigned of annually increasing gross agricultural output by 5 percent, then the fixed productive capital of an agricultural nature must increase during the particular period by 11.14 percent (1.0585 · 1.05 - 1). Similar computations were carried out to determine the requirement for internal fixed capital, the complete production costs for commodity production and other norm-forming elements, on the basis of which the norms for savings for increasing the productive capital of intra-farm consumption funds and other expenditures were determined.

When computing the aggregate profitability norm, the peculiarities in the reproduction process at kolkhozes, sovkhozes and interfarm enterprises and associations and the resultant differences in the formation of production costs and the savings and consumption funds were all taken into account.

The existing system for the formation, distribution and use of profit, established by pertinent party and governmental decrees is accepted as the basis for computing the profit norm at sovkhozes and state interfarm enterprises and associations.

Thus the computed profit includes the amounts used for financing an increase in fixed and working capital, which together with the resources in the fund for the strengthening and expansion of farms must ensure growth in the production capital by means of internal sources. Profit used for covering the losses of housing and educational institutes and young pioneer camps is computed according to the actual expenditures involved, with a correction for the predicted gross output volume.

The funds for material incentives, for social-cultural measures and housing construction and for awarding bonuses to leading workers are determined based upon the existing method for their formation. Thus, if the profitability level did not exceed 25 percent, then a payment for fixed capital is withdrawn from the profit and the profitability norm is adjusted accordingly.

Distinct from sovkhozes, the norm for kolkhozes included an intrafarm reserve fund, an income tax from the wage fund for kolkhoz members, an income tax on net income and deductions for the construction and repair of state roads. Accordingly, this norm did not include expenses for covering losses by the housing and municipal economy, payments into the funds or deductions from the fund for awarding bonuses to leading workers.

In connection with the formation of the centralized funds for social security and social insurance for kolkhoz members, a reduction has taken place in the role played by the intrafarm fund for social security and material assistance. Thus, during the course of developing the profitability norms, this fund was combined with the fund for cultural-domestic measures, the amount of which, by analogy with state enterprises, was established at the level of 10 percent of the overall amount of net income.

Owing to the fact that the funds for public consumption and material stimulation and the second part of the income tax are formed based upon a definite proportion of the overall amount of net income, during the first stage they were computed roughly, with a subsequent correction to the amounts called for in the norm.

Similar to the sovkhozes, the fund for the material stimulation of kolkhoz members and specialists was formed in the amount of 15 percent of the net income, but no more than 12 percent of the wage fund. The funds for material assistance to kolkhoz members, for cultural-domestic measures and social security were computed in a similar manner.

The aggregate profitability norms were developed using a Minsk 22 electronic computer and Series YeS machines. Special supporting programs were developed for this purpose.

The average annual aggregate profitability norms for production during the 1981-1985 period, in the public sector of agriculture and throughout the country as a whole, are as shown in the following table.

Average Annual Aggregate Profitability Norms

Average Annual Increase in Gross Agricultural Output, in %	Profitability Norm, in %	
	of the production cost for agricultural output	of productive capital of an agricultural nature
1.0	31.4	11.1
2.0	34.7	12.2
3.0	38.0	13.4
4.0	41.3	14.6
5.0	44.5	15.7
6.0	47.7	16.8
7.0	50.8	17.9
8.0	53.9	19.0
9.0	57.0	20.1
10.0	60.0	21.2

The norms as developed make it possible to achieve a balance between the production volumes and the financial resources in the five-year and annual plans for the economic and social development of agriculture for the USSR on the whole and for the union republics and economic regions. They are required for the formation of those financial reserves which will ensure stable and proportional agricultural development. The norms are used for analyzing the existing rates and proportions for the expanded reproduction of agricultural output and for determining the requirements for fixed productive capital of an agricultural nature and material working capital, in savings for their reproduction, and also the overall amount of profit (net income) required for ensuring the production of agricultural products at the planned rates by means of internal sources.

The aggregate profitability norms for agricultural production, owing to the great range of the component elements, are making it possible to evaluate the possible variants of the solutions undertaken and to trace their interdependence.

For example, in order to produce 713 rubles worth of gross agricultural output (in comparable 1973 prices) on 1 hectare of agricultural land in the Ukrainian SSR in 1985, an average annual rate of growth of 3 percent is required in the gross agricultural output. Such rates require savings in the amount of 94.2 rubles per hectare of agricultural land and, in addition, 435 rubles must be used annually for increasing the working capital norm.

If the principle of self-financing is employed, then such savings can be achieved in the republic for a profitability level of 36.5 percent of the production costs or 11.7 percent of the productive capital. In turn, provided the material resources are known, the component elements of the profitability norm can be used for determining the rate of growth in gross output and the profitability level for the pertinent year of the Eleventh Five-Year Plan, which will ensure expanded reproduction at the prescribed rates.

An analysis of the approved profitability norms has revealed their scientific soundness and validity. Thus, in order to achieve an annual rate of growth of 4-5 percent in agricultural output in the public sector of Ukrainian agriculture during the Eleventh Five-Year Plan, a profitability level of 40-43 percent of the production costs and 13-14 percent of the productive capital of an agricultural nature is required. The operational experience of kolkhozes in Krymskaya Oblast has shown that with such a profitability the oblast's enterprises, over a considerable period of time, are able to ensure a stable rate of growth for output, with the production level per hectare of agricultural land exceeding the zonal indicators by a factor of 1.5.

A comparison of the actual profit, for existing sales prices for commodity agricultural output, against the norm profit for a planned rate of growth in output makes it possible to establish the difference, which from a positive standpoint testifies to the possible formation of surplus resources as a result of intrafarm savings and from a negative standpoint-- to a deficit in such savings. The total amount of the deficit should be compared against the proposed sums for financing from the budget.

During the course of developing the aggregate profitability norm, we drew a conclusion regarding the possibility and need for creating a budgetary norm for investing resources in the expanded reproduction of agricultural output at prescribed rates and accordingly regarding the norm for budgetary profitability, which is defined as the ratio of the sum of the budgetary funds obtained for the development of production to the complete production costs for commodity production or the average annual value of the productive capital. The use of such a norm makes it possible to raise the role played by budgetary funds in the development of production, to determine the effectiveness of their use and it creates an opportunity for planning such financing for the future.

Under modern conditions, the difference between normative profit and budgetary appropriations is the normative cost accounting profit, which in the five-year and annual plans for economic and social development must be included in a planned manner in the procurement prices for agricultural products.

In our opinion, the methods for developing a profitability norm for an individual type of product must be based upon the same principles as those employed for creating the methods and aggregate profitability norms for agricultural production on the whole. The only difference lies in the fact that only the cost accounting profit and not the entire normative profit should be included in the procurement prices. The amount of the norm for price profitability will be differentiated based upon the proposed rates of growth for the particular products and its fund-forming elements. Naturally, the profitability norm will be higher for products having a large capital-output ratio than it will be for those produced using a large amount of live labor. As changes take place in the initial values for the norm-forming elements, corrections should ideally be introduced into the aggregate profitability norms for agricultural production by individual republics and economic regions of the country.

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Specific Capital Investment Norms

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 82 pp 60-62

/Article by V.I. Titov, candidate of economic sciences and head of a sector at the Central Scientific Research Institute of Experimental Planning for Rural Construction and A.A. Livshits, head of a group at the All-Union Planning and Research Institute for the Planning of Standard and Experimental Agricultural Production Centers and Establishments for the Storing and Processing of Grain of the USSR Ministry of Agriculture: "Improving the Norms for Specific Capital Investments"/

/Text/ In the decree of the CC CPSU and the USSR Council of Ministers entitled "Improvements in Planning and Intensifying the Influence of the Economic Mechanism With Regard to Raising the Efficiency of Production and the Quality of the Work," an important role is assigned to economic norms. They are required for developing the annual and five-year plans for the economic and social development of the national economy of the USSR and its individual branches. Within the system of economic norms, a special place is occupied by UKV's /udel'noye kapital'noye vlozheniye; specific capital investment/. These norms are required, for example, for the construction of animal husbandry facilities, which as a rule are erected on the basis of standard plans that are used repeatedly.

The development of standard plans preceeded the experimental construction of a number of large animal husbandry complexes. During the 1971-1973 period, the planning institutes created qualitatively new standard plans for these installations, which served as the basis for commencing the construction of the facilities in various regions of the country. Practical experience, aroused by the new norms for technological planning, scientific achievements and accelerated technical progress, led to the need for developing these plans.

In 1970, the USSR Ministry of Agriculture approved the "Temporary Norms for Specific Capital Investments in Agricultural Construction During the 1971-1975 Period." Later the norms for UKV in the construction of installations of an agricultural nature for the 1976-1980 period were developed and approved and norms for UKV during the Eleventh Five-Year Plan were prepared.

During the period under review, the nomenclature and the norms themselves were expanded. Thus, whereas the "Temporary Norms..." included only consolidated norms for UKV's, norms which determine the specific level of capital investments in construction on the whole and by production specializations, for subsequent periods individual norms were developed which extablish the expenditures for the construction of projects and which indicate the amounts and also the overall norms for UKV's by individual branches of animal husbandry. In addition to expenditure norms per unit of capacity (livestock billets), the norms for UKV's for the 1981-1985 period also include norms for specific capital expenditures per unit of output.

Growth in the specific cost of construction of animal husbandry complexes requires analysis and a determination as to the means available for lowering it. This need derives from a comparison of the data shown in Table 1.

Table 1

Dynamics of UKV Norms for 1981-1985
(in % of 1971-1975, accepted as 100%)

	1976-1980	1981-1985
Installations for large-horned cattle, including complexes:		
for milk production	112	128
for beef production	115	122
Complexes for pork production	112	135

The principal factors affecting an increase in the UKV norms are: a change in the technology used for producing animal husbandry products; the level of mechanization for individual production processes; the structure of the capabilities introduced into operations and the distribution of construction. An increase in the UKV norms came about owing to raised requirements for protecting the environment against contamination and also as a result of expenditures for the construction of installations and lines of communication. This considerable increase in the norms came about as a result of the conversion of animal husbandry over to an industrial basis and also owing to the conversion over to an all-round building system in place of the construction of individual installations. With expenditures continuing for construction of the principal installations, this brought about a change in the cost of construction for installations of a subsidiary-auxiliary nature. During the 1976-1980 period, the norms were computed based upon new estimated prices and rates introduced in January 1969, while at the same time the UKV norms for 1971-1975 were developed taking into account the estimated price indices developed by USSR Gosstroy, which were understated to a considerable degree.

The increase in the UKV norms reflects the true processes taking place in the development of the animal husbandry branches and in planning and construction. An analysis of the planning-estimates documentation for construction projects of milk production complexes for 800 cows revealed an increase in specific capital investments in the RSFSR during the 1974-1977 period. The cost of the complexes in various regions of the republic and on the average for the RSFSR are shown in Table 2.

It is noted that the norm for UKV in the construction of complexes for 800 cows was established at 1,777 rubles per cattle billet for the RSFSR and it actually increased by 41 percent. During 1977, on the average for the USSR, the cost for milk production complexes placed in operation reached 1,910 rubles per cattle billet and for complexes engaged in the raising and fattening of swine -- 395 rubles, with the norms being exceeded by 11 and 24 percent respectively. It bears mentioning that the true level of the specific expenditures was considerably higher, since the expenditures for constructing the auxiliary installations, the estimated cost of which amounted to 30 percent of the overall expenditures, were not included here. The experience in the construction and operation of complexes for 800 and 1,200 cows led to the need for increasing expenditures for the

Table 2

Specific Capital Investments in the Construction of Milk Production Complexes for 800 Cows, in rubles per cattle billet

Economic Regions	1974	1975	1976	1977	In % of 1974		
					1975	1976	1977
Northwestern	2090	2330	2610	3660	111	125	175
Central	1970	2080	2310	2545	106	117	129
Volgo-Vyatskiy	1780	2130	2430	2260	120	137	127
Central Chernozem	2000	-	1920	2320	-	96	116
Povolzhskiy	2130	2190	2160	2330	103	101	110
North Caucasus	1820	2020	2120	2360	111	116	130
Ural'skiy	2210	2300	-	2380	104	-	108
West Siberian	2030	2240	-	-	110	-	-
East Siberian	2500	3100	2470	2220	124	99	89
Far Eastern	2400	2950	3350	5460	123	140	227
Average for RSFSR	2076	2235	2527	2930	108	121	141

construction of auxiliary installations: feed preparation and storage, distribution and storage of farmyard manure and also for organizing public services and amenities on the territory. As a result, the cost of the projects of a subsidiary-production nature increased by 34-35 percent and the estimated cost of the complexes on the whole increased by 16-24 percent.

The plans for swine-raising complexes have been changed considerably. Thus the standard plan for a complex for the raising and fattening of 24,000 swine annually has been revised. Its structure now includes a reproduction section for the production of replacement swine. During the construction of swine-raising complexes for the raising and fattening of 54,000 and 108,000 swine annually, a number of additional projects were also erected: stations for artificial insemination, technical services points and others. In a number of instances the expenditures included the construction costs for breeding-reproduction farms. A standard plan for a complex for the raising and fattening of 12,000 swine annually was revised. As a result, the planning-estimated cost for the swine-raising complexes was increased by 13-34 percent.

The following are included among the common causes of increased costs for the construction of buildings and installations and they are typical for all agricultural construction: increases in wholesale prices for materials, machines and equipment; increase in the norm for overhead expenses in connection with the conversion over to the contractual method of construction; growth in wages and also improvements in sanitary-domestic services for workers, the payment of grants to students, withholdings for professional trade union organizations for cultural-educational work and so forth.

The carrying out of work by contractual organizations has also brought about an increase in the estimated cost of construction. At the present time,_contractual construction work_at sovkhozes is being carried out mainly by PMK's /mobile mechanized column/ of the Ministry of Rural Construction. The PMK workers receive a 30 percent bonus added on to their wages owing to the frequent relocation of the construction organizations, the dispersion of the projects and the removal of the workers from their permanent place of residence. During planning, full consideration must be given to all factors affecting an increase in the estimated cost of construction and the specifics of the logistical base for construction in the region.

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Capital Supply Norms

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 82 pp 62-65

/Article by Ya. Ginzburg: "Questions on Improving the Capital Supply Norms"/

/Text/ The increase in capital investments in agriculture and improvements in the efficiency of their use are raising new problems with regard to the economic soundness of the volumes and structure of investments and fixed capital for individual republics, natural-economic zones, rayons and types of enterprises, while taking into account industrialization, intensified specialization and growth in the concentration of agricultural production.

As is known, all of the production resources of an agricultural enterprise, with the exception of the fixed productive capital, are standardized in a strict manner and the effectiveness of their use is disclosed by comparing the norms and normatives against the actual use of each resource (raw materials, materials, fuel, electric power, expenditures of live labor and so forth). When planning the reproduction of labor resources, the requirement for fixed capital is not compared against the resources.

During the period of intensification of agricultural production and ever increasing volumes of material and financial resources being supplied to the branch, a decisive trend for improving planning and administration has been the creation of and improvements in the system of scientifically sound technical-economic norms and normatives for all types of work and expenditures of labor, raw materials, materials, fuel and energy resources, the use of production capabilities and so forth, which in concentrated form serve to reflect scientific and engineering achievements and also the social consequences of the scientific-technical revolution.

Special importance is being attached to the normatives for validating the amount and structure of capital investments and fixed capital, which in addition to influencing the effectiveness of solving current problems, also predetermine the long-term effect on the development of the economy. When planning capital investments and developing the prospects for reproduction of fixed capital in agriculture, the most acceptable indicators from our point of view are the capital supply norm for production and the capital-output ratio for output, from the standpoint of crops and branches and by regions of the country and types of farms.

During the past few years, the Scientific-Research Institute of Planning and Standards of USSR Gosplan and VNIESKh /All-Union Scientific Research Institute of Agricultural Economics/, together with branch and regional institutes, carried out improvements in the system of norms for agricultural planning.

However, serious shortcomings still prevail in connection with the development and use of norms. In the "Basic Directions for Economic and Social Development of the USSR During the 1981-1985 Period and for the Period Up To 1990," the need was underscored for "Substantially improving the establishment of norms for all production resources, systematically revise obsolete ones and introduce progressive norms which are in keeping with the modern level of equipment, technology and organization of production and labor. To intensify the mobilizing role played by technically sound norms in carrying out a regime aimed at achieving economies and strengthening cost accounting."

More intense studies must be carried out on a complex of theoretical problems and applied questions concerned with the scientifically sound establishment of norms for material, labor and financial expenditures in agriculture. This includes validating the system and classification of norms, the structure and nomenclature of the standardized complex, the content, methods and system for developing norms, the totality of factors which account for the norm values and structure, an analysis and practical summary of the prepared norms, the methods for intensifying the active influence of norms on the effectiveness of use of investments, its close coordination with the system of economic stimulation and so forth. No solution has as yet been found for the complex task of ensuring common initial information for developing an entire system of norms for agricultural planning. The schedules for preparing the primary and all-round norms are not being coordinated sufficiently and no regulated system is available for reviewing them.

Hence, a norm method for planning and management in agriculture has still not been worked out adequately or formulated from a legal standpoint, a strategy by means of which the achievement of the established goals is regulated by the pertinent conditions. The multiplicity of norms and their use for different purposes and the regulation by norms of a number of aspects of social production are raising the feasibility of creating a state bank for norms and normatives and establishing an efficient system for developing, analyzing and reviewing them.

Considerable importance is being attached to the use of a special purpose-program method for establishing norms for material resources in all elements of the scientific-production and technological chain and to reinforcing it with appropriate legal and juridical principles. All of this must be directed towards improving the final results, raising national economic efficiency and promoting the development of the planning-norm form of control into an independent system, in which the achieving of the established goals is directly dependent upon fulfillment of the regulated conditions.

During this modern stage in agricultural development, there must be a scientifically sound capital supply for production both for individual kolkhozes, sovkhozes, interfarm and agroindustrial enterprises and their subunits and also for the agroindustrial complex.

When establishing the norms for fixed capital, a study must be undertaken of the objective conditions of reproduction in agriculture and its relationship with other branches of the national economy and the country's economy on the whole. A study must also be undertaken of the projected trends for scientific and engineering development and of the possibilities for introducing them into production, the different variants of economic solutions must be compared and so forth.

The establishment of norms for capital supply includes a wide range of problems. This includes the essence, structure, methods and sources for the reproduction of fixed capital, the methods for evaluating them, the ratios between the intensive and extensive factors for the expanded reproduction of fixed capital, the branch, reproduction and technological structure for investments, the relationship between the capital-labor ratio and labor productivity and so forth.

The task of establishing norms for capital supply in agriculture is further complicated by the fact that the actual capital-output ratio for individual crops and animal husbandry branches is not being computed at the present time. Analytical accounting at kolkhozes and sovkhozes is not suitable for computing the mentioned indicator and in this regard its methodical computation is also difficult as a result of a certain conditionality in the distribution of the fixed productive capital from the standpoint of crops and branches. Despite the ever-increasing volumes of capital investments in agriculture, the capital-output ratio for output has not been included in state statistical accounting. The capital supply norm is a progressive indicator that is computed on the basis of the most effective technological, organizational and planning solutions.

During the course of establishing norms, it will be necessary to determine not only the capital supply level for production and the capital-output ratio for output but also the proper ratio between the individual elements of capital, upon which the effectiveness of their use is dependent to a considerable degree. The optimum ratios for the different parts of the fixed productive capital for individual branches, types of enterprises and regions of the country have still not been developed adequately. The level, the correlation of the individual parts of the fixed capital, the interrelationships between the elements of their reproduction and the rational proportions between them can all be validated during the course of establishing the norms.

When establishing norms for fixed capital, importance is attached to taking into account the maximum use of fixed capital and also the considerable differences in regions and zones of the country in terms of natural conditions, specialization, intensity and other factors. The use of a regional approach for establishing norms is dictated by the need for singling out installations for developing norms and the areas of their distribution.

The installations for which norms are to be computed are selected taking into account those processes of interfarm cooperation and agroindustrial integration which are taking place at the present time or are planned for the future. Of the existing forms of enterprises (kolkhozes, sovkhozes, interfarm and agroindustrial enterprises and associations), the most efficient ones for the specific conditions found in a region (republic, economic region, zone) should ideally be selected, enterprises which promote to a maximum possible degree the solving of a complex of production, economic and social tasks concerned with agricultural development, as set forth in the decisions handed down during the 26th CPSU Congress. Thus, each region may be characterized by a certain number (as few as possible) of installations of leading production types, which are used when solving problems associated with determining the norms for the fixed productive capital.

In our opinion, the most acceptable method for establishing norms for capital supply is that in which the norms are developed at representative-installations (standard farms), disseminated to the installations under consideration and grouped by planning regions (union republics, economic regions, zones). Typical farms representative of a definite group of enterprises, that is, operating under the same natural-economic conditions and having the same production specialization and level of intensity, should ideally be used as the representative-installations.

It is recommended that the norms be computed based upon approved plans for organizational-administrative arrangement and social development, plans which describe the future prospects for the development of enterprises of a given group and their rational production type.

Computations which we carried out and an analysis and summary of the materials of organizational-administrative plans for 240 enterprises of different production specializations and zones throughout the country have shown that the value of fixed productive capital per hectare of agricultural land, which describes the capital-supply norm, fluctuates between 50 rubles on farms specializing in the raising of sheep in the southern region of Kazakhstan and 7,000 rubles at subtropical kolkhozes in the Trans-Caucasus republics.

Considerable differences are being observed among farms of the same specialization. For example, at sheep raising farms which operate under less favorable natural conditions, the level of production intensity is lower. Thus, in the semi-desert and desert zones of Kazakhstan and Central Asia, the normative value for fixed productive capital per hectare of agricultural land is 50-100 rubles, increasing to 150-200 rubles in the steppe rayons in the Volga region and the north Caucasus and up to 250-350 rubles in the southern and Donetsk-Pridnestrovskiy regions of the Ukrainian SSR.

The capital-supply norm for agricultural enterprises should ideally be computed using model farms as an example, farms where specialization, intensity, size and structure of the fixed productive capital conform to the optimum parameters of farms (kolkhozes, sovkhozes and interfarm and agroindustrial enterprises) of a definite production specialization in the given zone. When carrying out such modelling work, the requirement for fixed productive capital per 100 hectares of agricultural and arable land must be validated for the different structure of the sowing areas typical of the given zone and also for the different variants of additional branches. The number of different plans is determined by the prospects for agricultural development in the zone.

When developing a model, importance is attached to establishing correctly the long-range indicators for the particular type of farm, especially such indicators as the cropping power of crops, livestock productivity and the level of mechanization, since these are the basic indicators when establishing the norms for capital-supply.

In planning practice and in accounting for fixed productive capital, use is made of various methods for evaluating the capital: according to the initial, residual and replacement value. During the course of establishing norms and for comparison purposes, the existing capital should in our opinion be evaluated according to its replacement value, that is, the cost to reproduce it under modern conditions and capital newly introduced into operations -- according to the initial value.

In order to develop norms which will ensure the most profitable management for agricultural production, a comparison must be carried out on the effectiveness of the different variants for the economic solutions, the indicator of which, in conformity with the standard method for determining the economic effectiveness of capital investments, is the minimum amount of expenditures cited.

Under the conditions imposed by the industrialization of agricultural production and the introduction of scientific-technical progress, the volumes of services being rendered to kolkhozes and sovkhozes by enterprises of Goskomsel'khoztekhnika, Sel'khozkhimiya and other organizations are being increased and the forms of such services expanded (production-technical and transport-expeditionary services, supplying the agricultural enterprises with logistical resources, the installation and completion of equipment for animal husbandry farms and complexes and agrochemical services). The progressive changes taking place in the services for agricultural enterprises must be taken into account when developing norms.

For a comparison of the actual and normative capital-supply for production, the norms should ideally be computed in conformity with the existing classification for the fixed productive capital of sovkhozes, kolkhozes and interfarm enterprises according to the following elements: buildings, installations (including intrafarm and land reclamation installations), machines and equipment, transport equipment, production and farm implements, working and productive livestock, perennial plantings, instruments and other fixed capital.

For the purpose of introducing an industrial technology for the cultivation of crops into production operations, the requirement for fixed productive capital in field crop husbandry throughout the country as a whole must be 442 rubles per hectare of agricultural land (including buildings and installations -- 227 rubles, for mechanization and transport equipment -- 107, perennial plantings -- 49 and other fixed capital -- 79 rubles).

The capital-supply norm for field crop husbandry has been differentiated to a considerable degree by regions of the country. This is the result of differences in the natural and economic conditions, specialization, structure of the areas under crops, level of intensity, in the methods for organizing production and so forth. Owing to the specific peculiarities of individual agricultural crops, different capital expenditure volumes for fixed productive capital are required for their cultivation and harvesting. If the capital-supply norm for a hectare of sown grain crops is accepted as being 1, then for potatoes it will equal 3, vegetables -- 2.1, root crops and sugar beets -- 1.6-1.9, silage crops (including corn) -- 1.4, spinning flax -- 1.1, grasses for green feed and annual grasses for hay -- 0.7, sunflowers -- 0.7 and perennial grasses for hay -- 0.6.

In connection with the different capital-output ratio for agricultural crops, the normative requirement for fixed productive capital per hectare of arable land is dependent to a considerable degree upon the structure of the sowing areas. As an increase takes place in the sowings of such capital-intensive crops as potatoes, vegetables, sugar beets and cotton, the normative requirement for fixed productive capital per hectare of arable land also increases.

Buildings, installations and transfer equipment constitute the principal proportion of the norm structure for capital. For individual crops, branches, republics and economic regions, this proportion fluctuates from 34 to 72 percent of the overall value of the fixed productive capital for field crop husbandry. The high proportion of buildings, installations and transfer equipment is explained by the ever-increasing scales of construction (land reclamation installations, warehouses for the storage of products, fertilizers, petroleum products agricultural equipment and so forth) and also by the high estimated cost of construction-installation work which has increased considerably in recent years.

A study of the economies of kolkhozes and sovkhozes which cultivate crops on irrigated land serves to underscore the continuous link that exists between capital availability and the level of agricultural production on the one hand and its effectiveness on the other. The development of irrigation has been associated with great capital investments for aquicultural construction. The increase that has taken place during the past few years in specific capital investments in irrigation-land reclamation measures is the result of a number of factors. The chief such factors include the increase that has taken place in the length of the mainline channels in a lined canal, the construction of systems having a mechanical water intake and a collector-drainage network, distance from the water supply source and the advance of irrigation into less favorable regions and an increase in the length of roads. In this regard the normative capital-output ratio for output in irrigation farming exceeds the corresponding indicator for non-irrigation farming.

One of the chief conditions for lowering the capital-output ratio for output on irrigated lands is growth in the cropping power of crops. Computations have shown, for example, that for an increase of 20 percent in the cropping power of grain crops under irrigation in the Ukraine, the norm for capital availability for a hectare increases by only 2.7 percent and the capital-output ratio for the grain is lowered by 15 percent. In the irrigation zone of Uzbekistan, an increase of 1 percent in cropping power makes it possible to lower the capital-output ratio for potatoes and perennial grass hay by 0.65 percent, vegetable and melon crops and food roots -- by 0.53-0.57 percent and grain and silage crops -- by 0.42-0.46 percent. Each percent of increase in the cropping power of cotton makes it possible to lower the capital-output ratio for 1 ton of output in the Kazakh, Azerbaijan and Tajik SSR's by 5.1-5.5 rubles and in the Uzbek, Kirghiz and Turkmen SSR's -- by 6-6.6 rubles.

In order to organize animal husbandry on an industrial basis and ensure the availability of a progressive production technology, while taking into account the increasing production volumes, the value of the fixed productive capital must be at least 328 rubles per hectare of agricultural land and 791 rubles per hectare of arable land. The requirement for capital is dependent upon the distribution of animal husbandry among the economic regions and republics and upon zonal specialization and the density of the livestock capita.

The structure of the livestock capita exerts a considerable effect on the capital-supply norm for animal husbandry. Thus the requirement for fixed capital for the production of 1 ton of live weight in large-horned cattle is 3,391 rubles, swine (fattening) -- 1,518 rubles, poultry (broilers) -- 1,838 rubles, that is, for an increase in the production structure and in the proportion of large-horned cattle meat, the volume of capital investments increases.

For dairy cattle and compared to dairy-meat and meat-dairy specializations, less capital is required per ton of milk (735,836 and 919 rubles respectively). The indicated trend derives from the fact that the increase in the proportion of cows in the herd is accompanied by excessive growth in milk production compared to the increase in fixed capital. Thus, for 60 percent cows in the herd, the normative value for buildings and installations per head of large-horned cattle increases by a factor of 1.2 compared to the herd, where the proportion of cows is 35 percent and milk production increases by a factor of 1.7, that is, the rate of increase in output exceeds the rate of growth in capital by 42 percent.

The new industrial methods for the production of animal husbandry products are imposing basically new requirements upon the feed production system. Hence a need has arisen for planning capital investments not only for the construction of animal husbandry complexes or farms but also for supplying them with the equipment required for feed production. The requirement for fixed productive capital, for the production of feed for various types of animals, is determined mainly by the capital-output ratio for individual feeds, their composition and structure and by the productivity of the animals.

The summer ration is more economical and its capital-output ratio per cow is 62 percent lower than that for the winter ration and 42 percent lower than the average annual figure. As is known, the feed ration employed in the republics of Central Asia and the Trans-Caucasus contains a large proportion of green feed, with the proportion of concentrated and succulent feeds being reduced somewhat; as a result, the capital-output ratio for the annual ration of cows in the mentioned regions is 30-60 percent lower than that for rations being used in regions of Siberia and the Far East. Hence, when planning the distribution of animal husbandry by zones throughout the country, one must take into account not only the productivity of the animals, the structure of the herd, cropping power and the production costs for feed, the types of feeding and so forth, but also the normative capital-output for feed production. This will make it possible to utilize the land, productive capital and manpower more effectively.

In order to raise the level of planning and administration in agriculture, further improvements must be achieved in the system of norms, normatives and technical-economic indicators.

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AGRO-ECONOMICS AND ORGANIZATION

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MEASURES TO INCREASE AGRICULTURAL PRODUCTION IN RSFSR NONCHERNOZEM ZONE

Moscow VESTNIK SEL'SKOKHOZYAYSTVENNOY NAUKI in Russian No 3, Mar 82 pp 16-22

/Article by I.Ye. Klimenko, member of CC CPSU and 1st secretary of the Smolenskaya Oblast CPSU Committee: "Problems in Development of Agricultural Production in the Nonchernozem Zone of the RSFSR"/

/Text/ The decisions handed down during the November (1981) Plenum of the CC CPSU have aroused a powerful flow of creative effort by workers throughout our country. The conducting of a session of VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ in Smolenskaya Oblast, the most typical oblast for the nonchernozem zone of the RSFSR, is viewed by us as a manifestation of special attention being given to the problems of the Russian nonchernozem zone and as a great honor bestowed upon Smolenskaya Oblast.

In carrying out the decisions of the 26th party congress and the November (1981) Plenum of the CC CPSU, the Smolenskaya Oblast party organization is undertaking energetic measures aimed at accelerating in every possible way the rates of development for agricultural production -- the foundation for the food program. In 1981, an extremely unfavorable year in terms of weather conditions, the selfless work performed by workers in villages, cities and rayon centers in our oblast made it possible to carry out the spring sowing, tend the crops, procure feed and harvest the crops in a timely manner. Compared to 1980, grain production increased by a factor of 1.6, potatoes -- by 2.1, vegetables -- by a factor of 1.5, flax fibre -- by 8 percent and flax seed -- by 28 percent. Smolenskaya Oblast succeeded in coping with its hay procurement plan for the very first time. The tasks for selling grain to the state and supplying potatoes for the country's industrial centers and also the plans for procuring vegetables, fruit and berries were all carried out successfully. The sovkhozes and kolkhozes were fully supplied with the required quantities of grain, potato and flax seed. The plan for the sowing of winter crops was over-fulfilled and autumn plowing was carried out on practically all of the spring crop fields. The chief efforts of the agricultural workers are being concentrated on the proper carrying out of the livestock wintering program and on making thorough preparations for the spring sowing operations.

The republic's agriculture will be confronted by important tasks during the Eleventh Five-Year Plan. In conformity with the decree of the CC CPSU and the USSR Council of Ministers regarding the nonchernozem zone of the RSFSR, the sovkhozes and kolkhozes, by 1985, must increase their production of grain and vegetables by a factor of 1.5 above the average annual figure for the Tenth Five-Year Plan, potatoes -- by a factor of 1.3, flax fibre and meat -- by 22 percent, milk -- by 10 percent, eggs -- by 24 percent and wool -- by 15 percent. The achievement of the goals planned is greatly dependent upon ensuring efficient use of the land. The agricultural lands in our oblast are characterized by low productivity -- they consist mainly of sandy loam and loamy soils having a low humus content. Eighty-eight percent of the arable land has a raised acidity level and one half of the areas has a low content of plant accessible phosphorus and potassium.

However, the use of modern agricultural practices makes it possible, even of these lands, to obtain high and stable yields in all areas. This is convincingly borne out by the experience of the collectives at our leading farms. Thus, the average grain yield during the Tenth Five-Year Plan at the Kolkhoz imeni Radishchev was 34.2 quintals per hectare, at the Mikheykovskiy Sovkhoz -- 31.4, at the Krasnyy Dobrovolets Kolkhoz in Smolenskiy Rayon -- 31.1 and at the Kolkhoz imeni Pushkin in Gagarinskiy Rayon -- 30.7 quintals per hectare. Animal husbandry operations are highly developed on these farms. And the number of such sovkhozes and kolkhozes is increasing at the present time.

The oblast party organization is persistently and purposefully striving to ensure that the achievements of leading workers are made available to all. Taking into account accumulated experience and scientific recommendations, measures have been developed in Smolenskaya Oblast for improving farming during the 1981-1985 period. They have been approved by the oblast's agronomic conference and ratified by the bureau of the oblast's CPSU committee and by the oblast's executive committee. A land cadastre and a system of farm management have been prepared by the scientific institutes.

A most important means for raising the fertility of sod-podzolic soils which lack humus is that of increasing the applications of organic fertilizers. At one time, the founder of Soviet agrochemistry Academician D.N. Pryanishnikov wrote: "...regardless of how great may be the production of mineral fertilizers throughout the country, farmyard manure will never lose its importance as one of the chief fertilizers for use in agriculture." It must be recognized that the quantities of organic fertilizer presently being applied to the fields are completely inadequate. The humus balance in the soil continues to remain unfavorable. In this regard, an important task for the next few years consists of applying 10-15 tons of organic fertilizer to each hectare of arable land. We have the capability for accomplishing this. Although the oblast has rich supplies of peat at its disposal, large amounts of this material are still being used for fuel purposes. We believe that the time is at hand for solving the problem of peat usage, such that it will be used solely for raising the fertility of lands. At the same time, the development of more improved technologies for preparing and applying organic fertilizers must be accelerated. The sovkhozes and kolkhozes also require more efficient means and methods for applying lime to the soil.

With improvements in the culture of farming, an increase in mineral fertilizer deliveries and the introduction of intensive managerial methods, the requirements for new and highly productive agricultural crop varieties have become more acute. Similar to other farmers and based upon numerous examples, we are convinced regarding the advantages offered by good varieties. All other conditions being equal, the Astor variety of oats furnished an average of 17.2 quintals per hectare throughout the oblast over the past 5 years -- 6.8 quintals per hectare more than that furnished by the Nadezhnyy variety. The Nosovskiy 9 barley yield was equally high compared to the Moskovskiy 121 variety. But the cultivated varieties are still not satisfying the increasing requirements of agricultural production. Owing to an absence of contemporary varieties that are suitable for machine harvesting, the sowings of such valuable pulse crops as lupine, peas and vetch have been reduced practically to zero. The breeding of clover is falling behind and production is not being supplied with barley and oats varieties having improved feed qualities.

The farmers are waiting for the plant breeders to provide them with plant varieties having short growing seasons and resistance against diseases, lodging and waterlogging and at the same time capable of furnishing high yields during unfavorable weather conditions in the nonchernozem zone. "Until we learn to command the weather" stated Comrade L.I. Brezhnev during the November (1981) Plenum of the CC CPSU, "work in agriculture must be skilfully adapted to the climatic adversities. This presupposes more strict specialization by regions. It presupposes the introduction of such crops and such agrotechnical methods which will ensure good yields during both minimal and excessive moisture conditions."

Flax production is deserving of special mention -- a most important branch of agriculture in the nonchernozem zone. The flax fields occupy more than 100,000 hectares in our oblast. One out of every 4 tons of Russian flax fibre is produced in Smolenskaya Oblast. Our flax growers have accumulated considerable experience in the cultivation of this valuable crop and they have initiated progressive undertakings on more than one occasion. The conversion of this branch over to an industrial technology was carried out for the very first time in Smolenskaya Oblast and it is here that collaboration developed between the farms and flax plants in organizing the procurements of flax raw materials using the "field-to-plant" method, seed production has been organized and production specialization and concentration are being carried out in a purposeful manner. Today almost one half of the flax sowings are concentrated at sovkhozes and kolkhozes where more than 300 hectares are being used for cultivating this crop and at 13 farms -- from 500 to 730 hectares. The flax processing enterprises in Smolenskaya Oblast were the first to introduce a technology for obtaining flax fibre. Smolenskaya Oblast was awarded challenge red banners of the USSR Council of Ministers, the Council of Ministers for the RSFSR and the AUCCTU on four occasions during the Ninth Five-Year Plan and on three occasions during the Tenth Five-Year Plan.

Taking into account the experience accumulated in flax production, the oblast's party organization is directing the farms along the path leading to specialization and conversion over to an industrial basis in potato production and in other branches. At the same time, measures are being undertaken in connection with obtaining high and stable yields for the agricultural crops.

A chief element of the long-term program aimed at converting the nonchernozem zone into a zone of stable and high yields is that of land reclamation. The founder of our domestic soil science, our fellow-countryman V.V. Dokuchayev wrote that in Smolenskaya Oblast "more or less relatively high and completely dry areas do not occupy even one half of the surface and usually their outline is very weak, with a large portion being represented by completely isolated islands among meadows and swamps." More than 800,000 hectares of land in our oblast are in need of drainage. Since the May (1966) Plenum of the CC CPSU, the logistical base of the aquicultural organizations has been strengthened considerably, an increase has taken place in the volume of reclaimed land and the quality of this land has been improved. More than 120,000 hectares of drained land and more than 8,000 hectares of irrigated land have been placed in operation at sovkhozes and kolkhozes. The drainage of agricultural lands is now being carried out using only the closed drainage method; roads are being built here and primary cultivation of the land is being carried out. The effectiveness of this land reclamation work is obvious. During the past five-year plan, the average grain crop yields obtained throughout the oblast from drained lands amounted to 23.1 quintals per hectare -- 10.3 quintals more than that obtained from old arable lands. Approximately 35-40 quintals of grain per hectare were obtained from drained lands by the kolkhozes imeni Radishchev and Pushkin in Gagarinskiy Rayon, the kolkhozes imeni Lenin and Rossiya in Pochinkovskiy Rayon, the Kolkhoz imeni Lenin in Monastyrshchinskiy Rayon, the Nasha Rodina Kolkhoz in Roslavl'skiy Rayon, the sovkhozes Udarnik and Rodomanovo and others.

But today's land reclamation rates are by no means satisfying the requirements of the sovkhozes and kolkhozes. Many derelictions are occurring in the operation and use of drainage and irrigation systems. The party, soviet, aquicultural and agricultural organs are devoting a maximum amount of attention to land reclamation work and they are undertaking measures aimed at raising its effectiveness. These problems are being examined on a regular basis by the plenums and bureau of the oblast CPSU committee, the oblast executive committee, the municipal and rayon party committees and the rayon executive committees. A long-term plan has been prepared in the oblast for the development of land reclamation operations, with the order of priorities, land reclamation methods and water conservation measures set forth and with the creation of protected swamps and forests called for.

At the same time, life teaches us that the program for transforming land requires a more intense scientific approach. Soil erosion often takes place during the course of draining water-logged tracts of land and, as well, water areas become contaminated and shallow. Moreover, the nonchernozem zone is a region of water sources, with such rivers as the Dnepr, Volga, Oka and Desna originating here. In Smolenskaya Oblast alone, there are 1,149 rivers and streams. A persistent need is developing for the scientists to express their thoughts with regard to how land reclamation must be carried out in the future. In order to avoid its undesirable consequences in river basins, regional plans for aquicultural construction which take into account the natural factors should obviously be prepared. And the land reclamation systems themselves are far from perfect. We still have not succeeded in controlling, to the degree required, the water, air, thermal and nutritional regimes of the soil and, as a result, obtain guaranteed yields. Thus, during last year's hot summer, the yields obtained from many reclaimed tracts of land were lower than those obtained from non-reclaimed land. Yes and for the oblast as a whole a reclaimed hectare furnished only 17.5 quintals of grain per hectare.

We consider the following problem to be extremely important. There are roughly [illegible]00 hectares of land in Smolenskaya Oblast which do not require drainage but require agricultural reclamative measures. All of this work is considerably cheaper than drainage and thus the land reclamation specialists strive to reduce their volumes and quite often they fail to fulfill their plans. At the same time, the farms are capable of using their own resources for uprooting shrubs, leveling the fields and carrying out other work. It bears mentioning that we already possess such experience. But in order to expand this work, the sale of land reclamation equipment to the kolkhozes and sovkhozes must be authorized. Moreover, the mechanisms required must be such that they can be used not only for land reclamation work but also for other production purposes. The advantages to be realized from this are quite obvious.

And further. During the course of carrying out soil improvement work, especially following the removal of shrubs, a large quantity of organic substance is irrevocably lost, the restoration of which requires considerable expenditures and many years. The aquicultural organizations, sovkhozes and kolkhozes have for a long period of time been waiting for the scientists and industry to supply them with machines and equipment which will not only conserve and protect but also multiply the natural fertility of lands under cultivation.

In defining the path to be followed for achieving further agricultural development, the 26th CPSU Congress placed emphasis upon the task of accelerating improvements in animal husbandry operations, which must become and is becoming an important front for work in the rural areas. This is a leading branch in Smolenskaya Oblast. Highly productive cattle of the Shvitskaya strain have been bred here since olden times and the Sychevskaya strain of large-horned cattle was created on our farms. High pedigree animals constitute 82 percent of the herd. There are many cows which have milk yields of 5,000-6,000 kilograms and 10,801 kilograms of milk having a fat content of 3.85 percent were obtained during lactation from the champion cow of the Sychevskaya strain. During the past few years, the breeding base has been expanded and strengthened considerably. In our oblast there are 8 breeding plants, 21 breeding sovkhozes and 47 breeding farms. Hence, more than 5,000 head of pedigree young stock are shipped from here to 55 oblasts, krays and autonomous republics of the RSFSR and to the Ukrainian, Belorussian, Azerbaijan, Armenian, Georgian, Kazakh, Kirghiz, Tajik, Turkmen and Uzbek soviet socialist republics.

It is well known that the organization of the feeding and maintenance of dairy cattle requires a special approach. But the technology for industrial animal husbandry operations does not call for this specifically; the technology is multipurpose in nature. Owing to this fact the number of cows having record productivities decreases, even when the animals are well supplied with feed, and this causes harm to the breeding operations. The scientific institutes must obviously introduce serious corrections when developing new technologies for the maintenance of large-horned cattle and the plans for animal husbandry farms.

The feed base continues to be a great problem in animal husbandry operations. "Everything that we wish to obtain from animal husbandry -- more meat, milk and other products" emphasized Leonid Il'ich Brezhnev, "is in the final analysis dependent upon sufficient feed being available and feed that is diverse in nature and of high quality." In carrying out these instructions, the oblast committee, municipal committees, rayon CPSU committees and the soviet and administrative organs mobilize the communists and all workers in the oblast for the purpose of increasing the production of feed. Compared to the Ninth Five-Year Plan, the volume of internally produced feed increased by 14 percent during the past five-year plan. In 1981, 825,000 tons of hay were procured for the very first time. An improvement was realized in the quality of the feed and the preparation of the feed for feeding to the animals was organized in all areas.

By 1985, the plans call for the production of coarse and succulent feed to be increased by a factor of 1.7 above the average annual figure for the Tenth Five-Year Plan. This is a complicated and yet attainable task. For its successful completion, the plans call for improvements to be carried out in the structure of the area under crops, the creation of highly productive haying lands and pastures, an increase in the applications of mineral and organic fertilizer to the fodder fields and the introduction of highly productive crops.

It is our hope that the agricultural science will make a worthy contribution towards further strengthening the feed base for animal husbandry. In addition to working out the basic problems of feed production, we deem it advisable for the scientists to intensify their studies concerned with improving the technologies employed for the harvesting, procurement and conservation of feed. It is our opinion that this will aid in increasing the feed resources considerably and with relatively small expenditures. The problems associated with increasing the production of feed protein require an urgent solution. We are of the opinion that more thorough attention must be given to selection work, seed production and to the technology employed for cultivating corn, rape and alfalfa. More active work must be carried out in this regard on the fields in the nonchernozem zone.

A typical feature of modern agricultural production is its conversion over to an industrial basis. In recent years, owing to the concern displayed by the party and state, considerable progress has been realized in the technical equipping of agriculture. For example, the average sovkhoz or kolkhoz in our oblast has 59 tractors, 28 combines of various types and 21 trucks. The availability of electric power for agricultural production has been increased considerably.

Nevertheless, the departure of large numbers of the rural population is attaching greater urgency to the problem of further intensifying the use of mechanized processes. During the next few years, the rural areas must be supplied with equipment which will raise the labor productivity of machine operators by a minimum of 3-4 times and animal husbandry workers -- by 2-3 times. Farming in the nonchernozem zone requires machines possessing good cross country capability and light construction and also capable of carrying out several operations, so as to reduce the number of runs made across a field. Accumulated experience indicates that electricity must be introduced into operations in a very active manner in order to accelerate the use of mechanization and automation, especially in animal husbandry.

A most important trend in the party's agrarian policies is that of social development of the countryside. During the 26th CPSU Congress, greater emphasis was placed upon the need for drawing the living conditions of the rural and municipal populations closer together. In Smolenskaya Oblast, a great amount of attention is constantly being given to capital construction in the rural areas. During the past five-year plan alone, approximately 600,000 square meters of living space were placed in operation for rural workers. An all-round building plan for many populated points is being carried out on the basis of general [illegible]. Consumer services for the rural population are being expanded and centralized municipal services are being provided for it.

But in addition to energetic and practical actions, the social development of the modern countryside also requires further scientific developments. New approaches are required for development of the rural areas, for the creation of a social infrastructure, for reproduction and use of labor resources and for personnel training and retention. The experience of leading farms has shown that the most reliable means for accelerating the creation of highly developed agricultural operations in the nonchernozem zone is that of converting the central farmsteads of sovkhozes and kolkhozes into settlements of the municipal type during the next few years. The working conditions in agricultural production must obviously be improved at the same time and in a purposeful manner.

The CPSU Central Committee has assigned the agricultural science the most important role of solving the large-scale tasks associated with an entire complex of agricultural problems and of implementing the food program as developed. "Without science" stated Comrade M.S. Gorbachev, member of the Politburo of the Central Committee and secretary of the CC CPSU, during a session of VASKhNIL /All-Union Academy of Agricultural Science imeni V.I. Lenin/, "Without a good practical generalization, without an efficient system for introducing the results of studies and developments and in the absence of an organic link for integrating science with production, we are unable today to advance forward successfully."

In this regard, mention should necessarily be made of the fact that during the past 10 years, as a result of constant attention on the part of the Central Committee of the Communist Party and Soviet Government and the efforts of scientists at the All-Union Academy of Agricultural Sciences imeni V.I. Lenin, an extensive network of scientific-research institutes was organized and is now operating successfully in Smolenskaya Oblast. The sphere of activity of these institutes embraces practically all of the principal branches of agricultural production. They are making a noticeable contribution towards improving the sovkhoz and kolkhoz economies.

For example, the Smolenskiy and Shokinskiy flax varieties bred by plant breeders at the oblast agricultural experimental station, headed by Candidate of Agricultural Sciences L.S. Atrashkevich, have been regionalized in many oblasts of the country and abroad. Approximately 8 million rubles worth of additional profit alone were obtained from their introduction into operations in Smolenskaya Oblast during the Tenth Five-Year Plan. A stockpile is available for creating varieties having a cropping power of 16-17 quintals of fibre per hectare, with a fibre content in the stalks of more than 30 percent. For the breeding and introduction into operations of high-fibre varieties of the intensive type, the collective at the Smolenskaya Oblast Agricultural Experimental Station was awarded the prize of the USSR Council of Ministers. Great importance is being attached to the research work being carried out at the Smolensk branch of the All-Union Scientific-Research Institute of Fertilizers and the Agricultural Soil Science. Based upon the initiative of scientists at the branch, our oblast converted over to applying raised dosages of lime to the soil. The Smolensk branch of the All-Union Institute of Animal Husbandry, jointly with specialists from gosplemob"yedineniye and breeding plants, bred two lines of the Shvitskaya strain of large-horned cattle and approved three new lines of the Sychevskaya strain.

The scientific workers attached to branches of the All-Union Institute for the Electrification of Agriculture, the All-Union Scientific-Research Institute of Hydraulic Engineering and Land Reclamation, the Experimental Station for Meadow Culture and Fodder Root Crops and others, are carrying out many useful actions for the benefit of practical work. The collective at the recently opened Smolensk branch of the Moscow Agricultural Academy K.A. Timiryazev is increasing its contribution towards the development of agricultural production.

The oblast party committee attaches great importance to scientific-technical progress in agriculture and thus it is constantly monitoring the work of the scientific-research institutes and directing the efforts of scientists and practical workers towards actively introducing scientific achievements and leading experience into sovkhoz-kolkhoz production operations. The farm leaders and oblast agricultural specialists displayed exceptional interest as they participated in the traveling session of the Scientific Council of the TSKhA /Timiryazev Agricultural Academy/, the scientific-practical conference held under the title "Methods for Increasing the Production of Grain and Other Farming Products" and in an oblast agronomic conference. A thorough analysis of agricultural development in Smolenskaya Oblast was conducted by scientists attached to VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/, the Moscow Agricultural Academy imeni K.A. Timiryazev, the all-union scientific-research institutes of fertilizers and agricultural soil science, hydraulic engineering and land reclamation and other leading scientific institutes throughout the country.

However, the effectiveness of such introductory work is still inadequate. Scientific achievements are still being introduced into production operations very slowly and one reason for this is the absence of proper planning as well as a lack of coordination between science and production.

It is obvious that all-round programs are required for introducing scientific achievements and leading practice into production operations. During the first stage, these programs should be developed for individual regions or at least for base experimental-demonstration farms and thereafter for an entire oblast. Such programs should call for the participation of several scientific institutes of different profiles, institutes which on the basis of their influence embrace all of the principal branches of agricultural production. We consider it advisable for such programs to be examined and approved by VASKhNIL jointly with the ministries and departments.

In solving the problems associated with scientific-technical progress in agriculture, we must be guided by the instructions handed down by L.I. Brezhnev, who stated "...at the present time, as never before, the attention of scientists must be concentrated and their efforts joined with those of the party, soviet and agricultural organs and kolkhoz and sovkhoz leaders and specialists, for the purpose of achieving more complete use in production operations of the results of scientific studies and ensuring the planned introduction into operations of everything achieved by science and verified by leading practice."

There can be no doubt but that the session of VASKhNIL which discussed the methods for accelerating scientific-technical progress in agriculture in the nonchernozem zone, in light of the decisions handed down during the 26th CPSU Congress and the speeches delivered during the session by some of the country's leading scientists, has served as a fine school for our personnel and has provided a new impulse for increasing the creativity of our agricultural workers. This will be of great assistance to the agricultural workers in successfully carrying out the tasks assigned by the November (1981) Plenum of the CC CPSU and the historic decisions handed down during the 26th Congress of the Communist Party of the Soviet Union.

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AGRO-ECONOMICS AND ORGANIZATION

PRICING PROBLEMS OF INTER-ENTERPRISE RELATIONS IN FARM SECTOR

Moscow IZVESTIYA in Russian 26 Mar 82 p 2

[Article by N. Prokopenko, doctor of economic sciences, director of the Belorussian Scientific Research Institute of Economics and Organization of Agriculture, and A. Myshelova, candidate of economic sciences: "Partners Should be Equal"]

[Text] As agricultural production becomes more intensive other branches exert more and more influence on its development. At the present time almost 90 percent of the material and technical base of agriculture and up to 60 percent of the material expenditures on the production of products are formed through interbranch exchange. But with the deepening interbranch ties a problem has arisen: why do the isolated branches which largely determine the level of development of agriculture end up to be inadequately reliable partners?

Let us refer to the example of the agrochemical service for the kolkhozes and sovkhozes. The Belorussian association, one of the best in the country, increased the volume of agrochemical work 1.5-fold in 1980 as compared to 1970. But even in this good association the expenditures increased 2-fold. The creation of a specialized agrochemical service did not in itself make these services less expensive; on the contrary, their costs increased by 35 percent. The reason for this is far from being a single particular one, and it does not have to do with Sel'khozkhimiya alone. It is common to all branches that serve agriculture and consists in that specialization and centralization of various kinds of activity is not sufficiently reinforced with intensive methods of management.

With the creation of Sel'khozkhimiya we have still not managed to eliminate such negative phenomena as violations of correct proportions in the growth rates of capital availability, and the productivity and payment of labor. Therefore material resources are utilized inefficiently and overhead expenditures increase unjustifibly. Thus the capital availability for the labor expenditures of the chemization service increased during 10 years from 6,000 to 9,000 rubles or 50 percent. The average annual earnings increased from 1,638 to 2,089 rubles, respectively, or by 27.5 percent, and labor productivity in value indicators increased by only 3.9 percent, and in physical terms it even decreased by 19 percent.

And in the final analysis the kolkhozes and sovkhozes had to pay 35 percent more for agrochemical work in 1980 than they did in 1970. Moreover, the normative expenditures per unit of work envisioned in the prices (per standard hectare) increased on an average from 3.60 to 4.72 rubles, and the amount of accumulations increased from 18 to 39 kopecks, respectively, or 2.2-fold.

There is obviously no need to reveal the reasons, consequences and the mechanism through which other kinds of services become more expensive. Technical, transportation, contract construction--they are all analogous in principle. The existing mechanism of economic stimulation does not direct them toward high-quality and prompt filling of orders from agricultural production. And this is not a matter of imperfect economic relations whereby the incomes of the services organizations are not dependent on the final results of production. The accounts with the farms for the products that are delivered (mineral fertilizers, mixed feeds, construction projects and so forth) and various services (technical, agrochemical) are kept in terms of unified prices and rates, regardless of the quality of the service. And this brings about the inadequate motivation of the partners in their dealings with the production they serve.

Simply because the wholesale (release) prices for mineral fertilizers are established according to physical weight, the expenditures of the kolkhozes and sovkhozes to pay for a unit of nutritive substances, depending on their content, ranges from 18 to 190 rubles per ton for individual kinds. The farms must pay not only for nutritive substances which determine the effectiveness of chemization, but must simultaneously reimburse all expenditures for the production, circulation, and application of the accompanying slag. It turns out that agriculture, which is most interested in improving the consumer qualities of the means of chemization, has no influence over the production but for some reason pays for the mistakes of the chemists. At the same time the results of the activity of chemical industry enterprises is not directly dependent on the usefulness of the products they deliver to the consumer. Of course, one should take into account that the content of nutritive substances in fertilizers also depends on the initial raw material and that expenditures must be made to increase their concentration. But still it is hardly justifiable that only agriculture is responsible for all this.

Is it possible to improve the position of agriculture and reorient the interests of the related industries toward the final results with the help of a one-time decision for all, even if we are speaking about creating a single administrative agency for the agro-industrial complex? It seems that further improvement of the organizational structure of administration can be successful if economic factors are improved at the same time.

In our opinion, in order to unite the economic interests of related branches it is necessary first of all to change the existing policy for the formation of autonomously financed incomes of enterprises and organizations that serve agriculture, to remove it from the departmental totality and orient it toward common results. It is known that the first step in the realization of the economic interests of any autonomously financed enterprise begins with the sale of products and the rendering of services, the earnings from which constitute its income. The reliability of economic relations is tested in the process of exchange.

The major requirement of agrarian enterprises for their partners of the first level of the agro-industrial complex is reliability of material and technical supply and service. It must be prompt, of high quality and less expensive. But the existing mechanism of price setting for the products and services that are delivered does not sufficiently meet these requirements.

There is now a need to take a more critical attitude toward the present method of actual realization of the major principle of price setting, which consists in that every normally operating autonomously financed enterprise should make reimbursements for all socially necessary expenditures on the production of products through the price. In practice this means that the prices are to be the sources for the reimbursement at the average branch level of all current expenditures and even for the expansion of production, that is, planned accumulations.

There is no doubt that this is a fundamentally correct form of setting prices for products in the final stage of production. But its mechanical transfer to intermediate products (semimanufactured products, services) frequently leads to undesirable consequences. Such conditions for the formation of autonomously financed incomes also give rise to narrowness of departmental interests. Say, the suppliers of technical equipment and mineral fertilizers receive all of the money included in the prices and relieve themselves of economic responsibility for how their products will reach the consumer. Therefore the partners always operate at a profit, although agricultural production can be on the verge of operating at a loss.

The profit presently being received by these service branches and departments is far from the final result that they should have given the established prices for their products. It is known, for example, that price estimates for construction work envision 6-percent planned accumulation, which should provide only half of the profit of construction organizations. The other part should be obtained as a result of reducing construction costs. Yet at the same time the actual profitability of construction and installation work done in Belmezhkolkhozstroy was 5.9 percent in 1980. This means that there was not only no savings here, but a large part of the accumulations were even used to make up for an overexpenditure of funds as compared to the estimate. True, the profitability of sold construction products is frequently higher, but this occurs mainly as a result of various compensations that are paid in excess of the estimated cost.

Enterprises of certain departments use practically all of their planned accumulations to make reimbursement for current expenditures and thus maintain the appearance of a certain economic well-being. Thus the actual profitability of all kinds of activity, except for supply, for the Belorussian SSR Goskomsel'khoztekhnika was 1.3 percent in 1980, although the prices for its services included 5-8 percent of the planned expenditures. It turns out that a large part of the accumulations were not utilized for their intended purposes.

The fact is that it is easier to utilize this source. In order to save on expenditures it is necessary to achieve a constant growth of labor productivity and equipment-capital ratio, as well as thrifty utilization of material resources, which requires strict observance of technological and labor discipline. But planned accumulations are the part of the national income that remain at the disposal of autonomously financed enterprises. The receipt of this money is guaranteed through the price.

But to underestimate economy on expenditures as a source of profit leads to negative consequences. Within the branch this ends up in increased outlays and reduced autonomous financing efficiency. The interbranch aspect of this problem consists in that as planned accumulations are used to cover production outlays, there arises a need to increase the prices of the products and services that are delivered to agriculture.

In our opinion, there is not sufficient justification for including in the prices the actual amounts of overhead expenditures. This does not encourage the farmers' partners to economize and leads to an unjustifiable increase of these expenditures at the expense of the farms that are being served. Thus in agriculture itself the proportion of overhead expenditures in the total production expenditures amounted to 9.8 percent in 1980, while in Belmezhkolkhozstroy it was 18.1 percent, and in Bel'khozkhimiya--15.1 percent, including 24 percent for mechanized work, and in the Belorussian SSR Goskomsel'khoztekhnika--21.1 percent.

In order to make the partnership with agriculture more equal, it would be expedient to change the existing policy for the formation of autonomously financed incomes of related branches and make them dependent on the reliability of service and the results of the work of the kolkhozes and sovkhozes.

The profit of the branches that form the material and technical base of agriculture (construction, supply) should rely on the final results and be dependent on the fulfillment of the requirements for deliveries, and in construction--on the observance of normative time periods and high-quality construction.

It is necessary to changeover to a formation of all autonomously financed incomes (earnings) of branches that serve agriculture (agrochemical and technical service) which is dependent on the amounts of agricultural products. This will be a general equivalent of all expenditures preceeding the production of these products and necessary sources of expanded reproduction. If, for example, one were to arrange the relations in the system of agrochemical and technical service on this basis, one would first have to determine the necessary (normative) expenditures on these services and their proportion in the planned expenditures on the production of agricultural products.

Taking this percentage of the products into account, one would determine the earnings of the service organizations for the work that was performed. The quality of this work would be taken into account when calculating the cost of the products. Under these conditions the earnings and profit of Sel'khozkhimiya, Goskomsel'khoztekhnika and other subdivisions of the agro-industrial complex would depend on increased production and improved quality of agricultural products and reduced normative costs of work. This would make the results of their activity directly dependent on the efficiency of joint production.

For example, the crop growing products obtained on the kolkhozes and sovkhozes of the republic on an average for 1976-1980, evaluated in terms of the planned production costs, amounted to 1,722,000 rubles, and the proportion of expenditures on agrochemical work in the overall amount of expenditures on production was 4.3 percent, and thus the cost of agrochemical work should be 80 million rubles (with planned accumulations being 8.2 percent). This means that with the existing results of production in farming the agrochemical services should cost the farms less than 7-8 percent. With calculations for products one achieves a closer tie between the incomes obtained in agricultural production and those in the spheres that serve it.

But the interbranch redistribution of the profit that is obtained undermines the autonomous financing motivation for further increasing it.

The major task of the mechanism for administration of the agro-industrial complex consists in directing all of its units not so much toward redistribution, but mainly toward obtaining a national economic effect. This is the primary goal that should be served by the mechanism of economic stimulation of production effectiveness and the conditions for the formation and utilization of autonomously financed incomes. This is also required of us by the decisions of the 26th CPSU Congress.

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AGRO-ECONOMICS AND ORGANIZATION

PROFIT-LOSS, UNSCHEDULED FARM BRIGADE SYSTEM ANALYZED

Moscow IZVESTIYA in Russian 22 Mar 82 p 2

[Article by G. Gubanov and O. Pavlov (Rostov-on-Don--Moscow): "The Field Under Contract"]

> [Text] Comrade L. I. Brezhnev devoted a large part of his speech at the 17th Congress of USSR Trade Unions to the practice of autonomously financed collectives, emphasizing in particular: "In comprehensive brigades that work under a single order, one achieves a significant savings on time and labor and material resources. The discipline is stronger and the earnings are higher, and young workers acquire mastery more rapidly. Naturally, labor productivity is also higher there."
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> Speaking of the fact that during the current five-year period progressive forms of organization and stimulation of labor should become extremely widespread, Leonid Il'ich pointed out the difficulties of establishing autonomously financed collectives. How does one surmount these difficulties. The practice of introducing a collective contract on the leading kolkhozes and sovkhozes is helping to find an answer to this question.

The field under contract . . . autonomously financed teams and brigades without orders. There will be 1,820 of them in the Don area this year. The collective contract in farming has proved its viability in the oblast for many years. Let us give several examples that show that mechanized teams obtain stable and large harvests.

"In our collective which has been entrusted to me for ten years now there are 11 machine operators of the first class," says the team leader from the horse farm imeni Kirov in Tselinskiy Rayon, I. Rublikov. We have been assigned land with full crop rotations of winter and spring agricultural crops and with an area of 2,525 hectares of clean fallow. We also have the appropriate technical equipment. The productivity of grain crops has amounted to 36.2 quintals per hectare recently, corn for grain--64.7, and for green mass--420 quintals, sunflowers--29.4, and hay from perennial grasses--40 quintals per hectare.

The collective fulfilled the production plan for the Tenth Five-Year Plan by 130 percent. Production costs were reduced significantly, and each machine operator produced an average of 30,000 rubles' worth of products annually.

Let us say frankly that in recent years the oblast has done a good deal in order to have as many collectives as possible like that of Ivan Rublikov's team in all of the rayons and in various zones. And the years were not the easiest ones. But during drought and other caprices of nature the results of the autonomously financed collectives were, as a rule, better, and the field under contract, more productive.

The collective contract has been established for teams, brigades and entire farms; it serves the remarkable cause of increasing the yield from the land and instilling in the grain grower a feeling of responsibility for it. There are also other rayons where autonomously financed teams and brigades, one might say, make the difference in farming. Millerovskiy, for example.

The formation of the collective took place with deviations and reservations. Efficient organization of labor and flexible, purposive payment for it--these are the two powerful factors whose skillful utilization in the rayon actually accomplished a confident step forward. True, not immediately. Eight years ago 120 autonomously financed collectives were created at the same time. After a half year or so this impressive figure was reduced to only one--the team of Ivan Khmelevskiy of the [illegible]evevskiy Sovkhoz was the only team operating. Years passed and the team was always on the right flank of the leading workers. This is where the present matter proceeded from.

After painstaking work, most of the machine operators gradually came to teams without contracts, and there are now 127 such collectives operating in the rayon.

The productivity of the grain crops of the farms of the rayon, where 83 percent of the arable land is cultivated by the brigade contract method, was 17.3 quintals per hectare during the years of the Tenth Five-Year Plan, and on neighboring kolkhozes and sovkhozes it was 1.5-2.5 quintals less.

From the grain field, where it began, the collective farming contract went to irrigated land which has been expanded in the oblast and now amounts to 400,000 hectares. Autonomously financed collectives here are practically independent of the caprices of the weather.

The [illegible]khoz in Sal'skiy Rayon, which has introduced the piece-rate-plus-bonus system of wages for irrigated land, last year produced 684.2 rubles' worth of products from each hectare and obtained 98.9 quintals of feed units from one hectare of arable land. Two teams here--A. Shekhovtsov's and P. Pylev's--reached the planned productivity ahead of schedule and obtained an average of 123.6 quintals of feed units per hectare. And they did this not for one year, but on an average for the Tenth Five-Year Plan--on an area of 2,100 hectares.

"In [illegible] area in recent years there has been a clear tendency toward increasing the number of teams working with piece-rate-plus-bonus payment with temporary advances," says the director of the All-Union Scientific Research Institute of Planning and Norm-setting for Agriculture, I. Soldatov. "Analysis shows that this process is an objective phenomenon: now many machine operators are themselves striving to organize their work according to the brigade contract method."

Not only on the Don and in the Northern Caucasus, but also on farms and in rayons of other zones which we visited previously and this year, one rarely encounters outspoken opponents of the collective contract for farming. Managers, specialists and soviet workers, even taking into account the specific difficulties that arise, still spoke of the undoubted advantages of progressive forms of labor organization and the stimulation of its final results. We frequently came across what seemed to be carefully thought-out measures for introducing the contract and witnessed energetic efforts of production organizers. But the plans and preliminary calculations in this matter were frequently much more optimistic than the actual practice could justify.

According to the data of scientific institutions, recent years have been marked by an appreciable reduction of teams of machine operators. The number of collectives without orders decreased especially. In 1979 in the Russian Federation there remained only 4,700 of them. On the kolkhozes and sovkhozes of the country as a whole only 8 percent of the brigades and teams operate under the collective contract method.

Above we have given facts and figures that show the economic effectiveness of autonomously financed collectives on the Don. But it must be recognized that even with a great deal of organizational and explanatory work on the part of local soviets, economic agencies and scientific institutions in the oblast, the ranks of farmers under contract are not stable. It is complicated for them to become accustomed to the new method and sometimes it is difficult to work with colleagues on a sharing basis.

Even in Millerovskiy Rayon there is, for example, the Rassvet Kolkhoz where 400 people work. And only 32 kolkhoz workers receive payment depending on the final result, while the rest bring their money to the piece worker. And how many farms like this are there in other rayons?! Above we discussed the 1,820 Don teams and brigades which will struggle for the harvest this year. Barely one-third of them are working without orders with temporary advances . . . . what are the main factors that impede mass application of the farm contract?

Sometimes the team has not even started to work before it comes into conflict with the management and specialists of the farm who, for various reasons, do not meet the contractual conditions: they do not allot the necessary technical equipment, supplies or fertilizers. "It seems that certain managers sometimes simply want to avoid such extra trouble. They take the easiest path: they sign the order and let the machine operator get behind the wheel, without thinking where this will lead at the end of the year, what the productivity will be, how much a ton of grain will cost, or what profit the farm will receive. Farm managers and specialists must immediately be made more responsible in all ways for the fate of the new forms of organization and payment for labor," this is the viewpoint of the chairman of the ispolkom of the Kagal'nitskiy Rayon of Soviet Peoples' Deputies, A. Buravlev.

"This is not a new problem for us," says the first secretary of the Verkhnedonskiy party raykom, A. Mrykhin. "It is clear that the problem cannot be solved just by orders and pressure from above if we do not have well-arranged and efficient planning with respect to the land itself. Taking into account its quality and economic potential, it is necessary to arrange autonomously financed assignments for the teams and prices for the products. But sometimes the assignments are unrealistic, exceeding the level achieved, prices do not sufficiently account for expenditures, they are not adjusted in terms of specific weather conditions. The teams should be provided with everything they need, strictly in keeping with the autonomously financed assignment: technical equipment, fertilizers, herbicides and transportation. The teams must be granted operational independence and machine operators should not be taken away for other work."

We also heard many other opinions, including from specialists of the USSR and RSFSR Ministries of Agriculture and scientists. The people with whom we talked were perhaps concerned most of all about the imperfection of the system of material incentives for the final results of labor in farming and the fact that the forms of the collective contract themselves were not flexible enough.

Specialists in particular think that the proportion of additional payments and bonuses in the earnings of the machine operator is too small--only 4-6 percent. The indicator is higher in autonomously financed teams: 10-15 percent. But even these additional payments are less than the objectively necessary level at which incentives for final results become a strong stimulating force.

Here is the opinion of a corresponding member of VASKhNIL, Yu. Buzilov:

"Sociological research has shown that with the existing amount of annual earnings of machine operators, additional payments and bonuses are stimuli if they amount to no less than 30-40 percent. The level of incentives with autonomous financing is still low. And this is the result of imperfect methods of forming prices for the product. According to the standard provision concerning wages, their amount is established by dividing the planned wage fund by the planned volume of products. When the standard provisions were developed they assumed that in planning it is necessary to take into account the actual possibilities of increasing productivity. But in practice something else takes place: the planning indicators for productivity are frequently raised, especially for feed and industrial crops, which in itself leads to an unjustified reduction of prices."

There is also another fine point here. In some places, let us be frank, the successes of the teams without orders are related directly . . . to violations of the in[illegible] the standard provisions concerning payment for labor. Managers and specialists, with a certain risk to themselves, for example, calculate prices not on the basis of planned requirements, but on the basis of the average productivity [illegible] achieved by the team or brigade during the course of a number of preceding years. Any inspector has a right to classify this as a serious violation of financial discipline.

Now, however, the provisions are being changed. After the adoption of the decree [illegible] and government concerning improving planning and economic stimulation [illegible] and procurements of agricultural products, prices are calculated taking into account the level of productivity during the past five years, and there are additional incentives for those who achieve the greatest productivity of arable land, highly productive utilization of technical equipment and good quality of grain and feeds. It is necessary to work conscientiously in local areas so that the new stimuli work more efficiently for the final result, for increasing labor productivity and not applied according to the principle: everyone take what he can get."

The brigade contract apparently presupposes no single method of advancing and distributing the collective earnings among machine operators which is mandatory for everyone, but a total of various flexible forms. But with a major condition: any of them must motivate the people to achieve the highest final results with minimum expenditure of labor and funds, without allowing wage levelling or indifference to individual mastery. Scientists and specialists are inclined to include among these forms the so-called group piece rate form, giving workers a contract that takes into account the complexity and quality of the work and the application of the "coefficient of participation." Here it is very important to make sure that people know the essence and the mechanism of these forms of material incentive and have sufficiently broad rights to select ways of distributing earnings within the collective as is proper for true masters of the land.

There are many diverse problems--economic, organizational and moral--that are engendered by the autonomously financed collective contract in rural areas. These problems are vital, crucial and multifaceted. ". . . in order to give the 'green light' to the autonomously financed brigade, it is necessary to continue to restructure the economic mechanism, to improve the material and technical support and to fight against formalism in planning and accounting for labor." In this clear, terse instruction of Comrade L. I. Brezhnev lies a clear program for that work which must be done by those who are responsible for the final results of work in rural areas and for a cardinal resolution to the country's food problem.

The work is complex and responsible and it must be conducted indefatigably, in a business-like way and on the high level that is required by the decisions of the 26th Party Congress in the interests of our farming and the entire agro-industrial complex. And now on the very threshhold of spring field work autonomously financed links and brigades are marching out and striving out to pass their difficult examination with the land and gratify the country with a large yield.

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BRIGADE LEVEL PROFIT-LOSS ACCOUNTING DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 23 Mar 82 p 2

[Article by M. Mitricheva, chief of the production-technical division of the Polyanskaya Mobile Mechanized Column (Ryazanskaya Oblast): "Brigade Contract Develops Autonomous Financing"]

[Text] After reading the newspapers and listening to the radio one sometimes gets the idea that we might sometimes be confusing the "brigade contract" and the "piece-rate order," practically placing an equal sign between them. But these are two different things! And we do not want to cast a shadow on the piece-rate order, but this form of labor organization still does not presuppose final readiness of the object for operation. This is only a stage on the way to the final result. But the brigade contract presupposes the startup of a prepared object.

I bring this up because we have had various opinions about this. The one concept has been replaced by the other, referring to the fact that in land reclamation construction the brigade is not capable of taking responsibility for everything having to do with bringing one system or another into the condition of operational readiness.

This, of course, is also true for brigades are frequently specialized. But what if the contract is transferred to an entire supervisory section? This is a large independent unit! It is capable of doing a great deal. But of course, without preparational work it is also possible to make gross errors. I have in mind detailed explanation of new methods and tasks of the collective itself, the appropriate material and technical planning, and the kind of support that really precludes nonproductive idle time.

At the Congress of Trade Unions Comrade L. I. Brezhnev responded enthusiastically to the new forms of brigade organization and stimulation of labor. "By increasing the effectiveness of production," emphasized Leonid Il'ich, "they fully correspond to the party's economic strategy in the modern stage."

Our first brigades went over to the contract in 1976. They began to complete the intermediate stages of the work more rapidly but, as I already mentioned, it was essentially the piece-rate principle that lay at the basis. But what if all the supervisory sections that perform the work on large projects were changed over to complete autonomous financing? After all, a larger scale operation makes it possible to maneuver the work front better. But the main thing is that there are forces and skilled hands that can make one kind of land reclamation or another ready for operation. And any brigade, even a specialized one, in an autonomously financed section will always find a way. Moreover, each member of the collective will be morally and materially motivated to achieve good final results from the work of the entire section and not only his own brigade. Labor will be evaluated according to the final result!

We do it this way. Under an agreement with the administration of the mechanized column, we transfer from two to four projects to an autonomously financed section, and there to be put into operation with high quality and within a strictly established time period. The conclusion of the agreements is preceeded by hard work on the part of the engineering and technical services of the mechanized column. This has to deal with the volumes of work, the time periods, the quantity of necessary mechanisms, and the limits on expenditures. All this is developed with the knowledge of the labor collective. Work superintendents and brigade masters study in detail the planning estimates, draw up schedules for the work, and determine the time periods and volumes of deliveries of materials.

The labor engineer and specialists of the production division prepare calculations of the cost of materials, transportation expenditures, and planned outlay for the operation of machines and mechanisms. They have determined the cost of the project and overhead expenditures, and they give limit-ceiling charts to the section. Sanctions are also stipulated for violation or failure to fulfill one point of the commitment or another, both on the part of the collective of the section and on the part of the administration.

As a result of the application of the section contract, the average output per one worker in the mechanized column increased 1.5-fold. The collectives of the section in the charge of the superintendent S. Nazar'in worked with excellence. Land reclamation workers put the 158-hectare irrigated area, Podvyaz'ye, into operation ahead of schedule. As a result of the reduction of the estimated cost of construction, the state saved 13,500 rubles, and the collective, consisting of 18 people, received 3,318 rubles in bonuses. And the several days that were saved were not wasted--the labor was invested in the construction of another project.

This section achieved even better results in draining the Mar'ino marsh. They transferred 250 excellently prepared hectares to the Zabor'yevskiy Sovkhoz with a guarantee certificate and significantly ahead of schedule. On this project alone labor expenditures were reduced by 229 man-days and the savings from reducing the estimated cost amounted to 6,800 rubles. For reducing the time periods for construction and saving on material resources the land reclamation workers were paid 8,500 rubles in bonuses.

Last year we had five supervisory sections working under contract. They did 78 percent of the overall volume of construction and installation work. This year there are more of these autonomously financed subdivisions, and by the end of the Eleventh Five-Year Plan the section contract will be the main form of labor organization.

But it is wrong to assume that the new method is being introduced smoothly, without problems. And this has to do not only with the irregular supply, although we have already been working to improve this matter. Many difficulties remain on the organizational plane. We do not always take into account precisely how broad the work front should be, or what "reserve" is most expedient for the autonomously financed section to have. It is good that with the contract people master related occupations and every worker can replace another, but there have been loopholes in the calculations, for example, when a bulldozer operator performs the work of a drainage master and the bulldozer sits idle even when there was work for it to do. Everything must be thought out here--from the utilization of welding equipment to the excavator. But the main thing is that now each worker of the section is interested in this!

Socialist competition among machine operators, brigades and autonomously financed sections become more effective. We consider the labor successes of the leading workers not only a private matter, but also the achievement of the entire collective. Everyone is aware of the example of the excavator operators M. Al'ter and V. Noskov, the bulldozer operators N. Bychkov and A. Shuvalov, and the tractor operator N. Mikhalev. And if previously they operated according to the unwise principle of "give, give" just to cover the norm, now the same neighbor is a comrade in labor who has a right to ask about the expenditure of fuel or simply suggest: "Let's do this with two machines instead of three; it will be less expensive." People are thinking about the profound issues of the economy!

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